IN THE

District Court of the United States

IN AND FOR THE

Southern District of California,

Northern Division.

Hillside Water Company, a Corporation; The Nevada-California Power Company, a Corporation, and The Southern Sierras Power Company, a Corporation,

Plaintiffs,

vs.

William A. Trickey et al.,

Defendants.

B-61 Equity

BEFORE HON. ALBERT E. CHANDLER, ARBITRATOR.

REPLY BRIEF FOR DEFENDANTS.

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Before Hon. Albert E. Chandler, Arbitrator.

REPLY BRIEF FOR DEFENDANTS.

The questions to be determined by the arbitrator in this case are raised under the pleadings of the parties, consisting of plaintiffs' amended complaint, defendants' answer and cross-bill, and plaintiffs' answer to cross-bill.

The immediate occasion for commencing the suit was an alleged trespass by certain of the defendants, on June 11, 1919, when, as charged in the complaint, such

defendants visited the structure known as the Hillside Reservoir, belonging to plaintiff, Hillside Water Company, and located on the South Fork of Bishop Creek, in Inyo county, California, and wrongfully and with force and violence, and without the consent of the plaintiffs, ejected the attendants at such reservoir, broke the locks on the valves of the reservoir, thereby releasing approximately 50 second feet of water, and continued such alleged unlawful acts until June 14, 1919, when such defendants were served with an order of said court issued upon the complaint herein, and restraining them from further acts of trespass in the premises.

Submission to Arbitration.

Thereafter, on July 10, 1919, at a meeting of attorneys and other representatives of the then parties to the suit, at Bishop, California, a stipulation under which the case was agreed to be, and was, submitted to arbitration, was drawn. [Tr. p. a.] Such stipulation recites that it is desirable "that the rights of all interested parties and claimants in and to the waters flowing in Bishop Creek, in Inyo county, California, be finally determined and adjudicated;" also, that such rights "can be best determined * * * by the reference of the entire controversy * * * to an impartial arbitrator for investigation and determination."

The stipulation which was intended for signature by "all interested parties," contains provisions to the following effect:

That the subscribers thereto, not already joined in the action, should, by amendment of the complaint, be made defendants.

That the complaint be also so amended as to include all claims of the plaintiffs with reference to the reservoir of The Nevada-California Power Company, known as No. 1 or Sabrina Reservoir, and all claims of the Hillside Water Company to the waters of Bishop Creek, or its tributaries, for irrigation and domestic uses.

That the defendants named in the amended complaint file and serve their answer, or answer and cross-complaint.

That the entire controversy, under the pleadings, be submitted to Albert E. Chandler as arbitrator, with authority to take evidence, to investigate and determine all issues of law and fact, and to formulate the decree to be entered in the case; and that no appeal will be taken from such decree.

Bishop Creek.

Bishop Creek, the principal tributary of Owens River, rises in the high Sierras in the northwesterly portion of Inyo county, and flows thence in a general northeasterly direction, joining the river about five miles easterly from the town of Bishop.

The creek basin may be divided into three parts, namely: first, the upper part, lying above the elevation of eight thousand feet, and comprising the principal

water-shed of the stream; second, the middle part, or gorge, lying between the elevations of eight and five thousand feet; and third, the lower part, lying below the point of emergence from the mountains, and consisting of an extensive delta cone traversed by the branches of the stream, and embracing the farming region in which the town of Bishop and the lands of the defendants are situated.

The upper part of the Bishop Creek Basin abounds in lakes, streams and meadows, making an ideal shed for holding back the waters resulting from the melting of the snows. At the sites of two of these lakes, viz., Sabrina, on the middle fork, and South Lake on the south fork, storage reservoirs have been constructed by power companies, with a combined capacity of a little over twenty-one thousand acre feet. The eight thousand point elevation on the stream is about eight miles from its highest source. The middle part of the stream, which is about seven miles in length, is fed by the early melting snows. The principal natural tributary in this stretch is Coyote Creek. The lower part of the basin, embracing the delta of the stream and extending down to the river, is about nine miles in length.

The Bishop Creek delta cone has been built up by erosions from the mountain sides, and naturally exhibits a definite grading of the materials and soils comprising this area. The cone has a fall of 800 feet between the mouth of the canyon and Owens River. The area lying above Owens River Canal, which intersects

the cone about three miles below the mouth of the canyon, is a very coarse, granitic soil, requiring abnormally large quantities of water for the raising of crops. As the slope is descended, finer soils are encountered and less water is needed for irrigation purposes.

Owing to the excessive slope of the delta cone, even the lower portions have been unable to hold the very fine *detritus,* resulting in its being carried further down the Owens Valley and deposited in accordance with its weight as far south as Owens Lake. Due to these conditions, even the material in the lower portion of the section embraced in the present controversy is quite porous and is not fairly comparable to the silty soils of the flat areas in other California valleys, such as Imperial and San Joaquin.

The Owens Valley, topographically, is quite isolated, and is more or less detached from the rest of California. Settled first, about sixty years ago, it retained until comparatively recently the characteristics of a pioneer community. The Carson & Colorado, a narrow gauge railroad, from the Carson Valley in Nevada, was built in the early days to serve the mining and soda industries in the vicinity of Owens Lake. It was not until the decline of the silver mining industry in the early 70s that any considerable attention was given to farming. The early settlers naturally turned to the streams on the west side of the valley, and the fact that these streams occupied very shallow channels, made it possible for the farmers, easily and with little cost, to divert the waters on to the adjacent soil. Despite

this advantage, the lack of transportation facilities and markets for the products of the farms, made development exceedingly slow and tedious. It was not until 1910 that Owens Valley was tapped by a broad-gauge railroad extending into Los Angeles, but the farms of the defendants are located sixty miles from this improved facility.

Bishop Creek Irrigation System.

This system has been in operation about fifty years. It was old when the plaintiff companies were organized. It is a simple system, which the early settlers, conforming to the practice then in vogue, laid out and built upon the principle of economy of construction and maintenance. It was a proper and legitimate method of handling Bishop Creek supply until the power companies, having established their plants on the stream and having found that their interests in providing cheap power for other communities, in this state and in Nevada, required an encroachment upon the rights of irrigation, suddenly assumed a hostile attitude toward the farmers, began to assert adverse rights and in support of their claims initiated an attack upon the efficiency of the system.

The system of ditches serving the area under Bishop Creek is composed of three main carriers, namely, North and South Forks of Bishop Creek and Indian Ditch. Indian Ditch serves practically all of that part of the system lying south of the south line of sections 1,

2, 3 and 4 of township 7 south, range 32 east, and above the Bishop Creek Canal. North and South Forks serve the remainder of the area above Bishop Creek Canal, and each a segregated area below the canal. China Slough supplies about 400 acres below the Bishop Creek Canal. Powers' Ditch, which formerly connected directly with the creek, but for several years past has been taking out of the pressure line between plants 5 and 6 of the power companies, at a point about a half mile above the heading of Indian Ditch, supplies lands of Powers and Watterson Brothers, which are situated apart from the main Bishop Creek area. From these main carriers, various laterals extend to serve the different ranches.

The system has not remained in its original condition, but here and there shows substantial improvements in the way of concrete headworks, flumes, etc.

The main irrigated area is very irregular in outline, but, on an average, is about two miles wide and seven miles long, with a difference in elevation between the highest and lowest diversion of about 500 feet. The main carriers of the system are advantageously located with reference to the territory to be served, and, generally speaking, the distributing laterals are well placed and give efficient service.

The method of irrigation practiced on Bishop Creek is the rotation system. A zanjero is employed whose duty it is to so handle and distribute the water, in varying heads, as will best meet the irrigation requirements. It has been demonstrated that a comparatively

large head of water, so handled as to get over a field quickly, will accomplish much more than a like amount running as a continuous flow. This, in great part, is due to the heavy gradients and exceeding porosity of the soil.

Under the rotation system, the area must be handled as a unit, or, in other words, as one large ranch. This is accomplished on Bishop Creek through neighborly understanding and without legal incorporation centralizing control. With the employment of large irrigating heads, there naturally is run-off, but this is not to be considered as waste. The different ranches have ditches at the lower ends, which either carry the excess water back to the creek or pass it through ditches to lower users.

By reason of varying crops the lower user, under the Bishop Creek system, is generally able to handle the run-off from his neighbor above. If the supply is not sufficient to get over his ground quickly it is augmented by the zanjero from one of the main laterals.

Large and apparently excessive individual usage under the rotation system does not, as a rule, involve any actual waste, as the same water is used over and over again as it descends from the upper to the lower ranches. The evidence showed that the individual usage in July, 1920, amounted to about 175 second feet, or 1.6 acre feet per acre, while, taking the irrigated area as a whole, the amount of water actually consumed was about 106 second feet, or .95 acre feet per acre.

As an aid to the presentation of this case, we have taken the liberty to insert at the outset of our brief a map, based on the evidence, of the area involved in the present controversy.

Claims of Plaintiffs.

The claims of plaintiffs under their pleadings, as outlined by their counsel at the outset of the hearing [Tr. pp. 1-7] are, in effect, as follows:

(1) The right to divert and store in the Hillside Reservoir, which has a capacity of approximately 14,000 acre feet, and in No. 1, or Sabrina Reservoir, which has a capacity of approximately 7,600 acre feet, sufficient water from Bishop Creek to fill those reservoirs during the period of high stream flow in each year, and to release the waters so stored at such times, in such quantities, and in such manner, as may be required for the proper operation of the electric generating plants, now five in number, of the two plaintiff power companies located on that creek, subject only to the limitation that during the irrigating season, plaintiffs shall not, through such storage, reduce the flow of water in Bishop Creek so that the average daily flow of the stream available for defendants' use is less than 90 second feet; such right being asserted on these grounds;

(2) Appropriations of the waters of the creek over and above the amounts then appropriated and beneficially used by other parties.

(3) Estoppel of defendants, through laches and acquiescence, to question such right.

(4) Adverse use, for more than ten years, for the operation of the plants of the plaintiff power companies.

Plaintiff Hillside Water Company also claims the right, through like adverse use, to take and utilize the waters of the creek for irrigation purposes on several thousand acres of land owned by the company on or adjacent to the creek, as follows:

a. Sufficient of the natural flow to properly irrigate 700 acres of land.

b. All water drawn from the storage in the Hillside Reservoir during each irrigating season.

c. One-third of the stored waters of the Sabrina Reservoir after passing through the power plants.

d. One-third of the entire diverted flow of Coyote Creek.

e. All of the waters of Birch Creek diverted into Bishop Creek, subject only to the rights therein, appurtenant to what is referred to in the record as the "Joe Diaz Ranch" and lands of the Indian Jake Shaw.

f. All the waters of McGee Creek diverted into Bishop Creek.

Claims of Defendants.

The water rights asserted by defendants in Bishop Creek are partly riparian and partly by appropriation. The riparian holdings of defendants, as established by

stipulation of the parties, filed in evidence as Plaintiffs' Exhibit "1," are as follows:

NAME	ACRES
J. A. Cashbaugh	87.4
Lucas Cesprini	7.5
Dora C. Coats	22.9
Robert O and Nora Cox	140
John A. Dehy	400
Chas. R. Dugan	140
Claude R. Ford	6.5
Geo. W. Garner	132
J. M. Garner	132
John G. Henderson	80
Ethel R. Irwin	79
Charles and Ritta M. Johnson	40
Phillip P. Keough	78
Paul E. Lodge	28
Mary E. B. Leidy	240
Lloyd Marquam	80
P. D. Mason and J. R. Alcorn	160
Allen Matlick	220
Le Roy McLaren	18
Wm. McLaren Est.	139
H. G. Plumley	155
Yandell Rowan	64
Wm. Rowan	160
Mary A. Serventi	6
J. R. Shipley	58.5
George R. Shuey	130

Horace M. Smith	80
Lloyd M. Smith	33.8
I. E. Squires	27.7
John A. Summers	12
Thos. Summers	200
Wm. Symons	160
Tabor & Allison	12.5
Mrs. E. A. Taylor	5
T. R. C. Teare	147.5
Thos. Thomson, Jr.	38.5
W. J. Tinder	20
J. S. Turner	118.5
L. C. Varney	135
W. H. Wells	56
E. P. White	7
Thos. Williams	220.8
TOTAL	4078.1

The aggregate length of the main stream and its two branches, within the limits of the territory irrigable therefrom, is approximately 15 miles, and of the total frontage not less than 95% is occupied by lands of the defendants.

The defendants, in their cross-bill, set up separately their rights in the stream by appropriation. These rights, as asserted, include the diversion and use by defendants, respectively, and their predecessors in interest, of various quantities of water from the stream for the purposes of irrigation, domestic use and watering live stock. In the case of defendant Town of

Bishop, it is alleged that the municipality, its grantors and predecessors, for more than 30 years past, have been the owners of the right to divert and take, for the purpose of sprinkling roads and streets, flushing sewers, extinguishing fires and other municipal purposes, and for the use of its inhabitants for irrigation and domestic use and watering live stock, on lands embraced within the limits of the municipality, 500 miner's inches of the waters of the creek.

ARGUMENT.

I.

The Defendants Are Entitled to the Quantity of Water Needed for Irrigation and Domestic Uses on Their Lands, Under the System in Vogue Among Farmers in the Locality.

This proposition is fully supported by the authorities but does not command the assent of counsel for plaintiffs. They urge, as we understand their agument, that defendants individually and collectively are excessively wasteful and extravagant in their use of water and that the system of irrigation in vogue in the Bishop region is inefficient and antiquated and requires much more water to supply irrigation and domestic needs than a modern system. Counsel do not take the position that the defendants, or any of them, in their use of water, do not conform to the existing system of irrigation in such region, but they denounce the system as wasteful and extravagant compared to up-to-date methods em-

ployed in other sections, and, therefore, as counsel reason, the rights of the individual users are limited by their requirements under an improved system. We admit, that if an irrigator consumes more water than is reasonably necessary under the existing system, then he may be charged with legal waste and the excess may be subjected to appropriation by another. If, however, such use conforms to the existing system, then subsequent appropriators like the plaintiffs in this case, may not indict the system so as to lay the basis for hostile appropriations in their own behalf. In other words, the defendants in this case must be judged according to the system in vogue in the locality where their farming operations are carried on, and not by an ideal system or by a system in vogue in other parts of the country.

And now for the authorities to sustain our contention.

Rodgers v. Pitt, 89 Fed. 420, was a suit to enjoin the diversion of water from Humboldt River. The court, after considering the right of the plaintiff to maintain the suit or to obtain an injunction, says:

> "It only remains to determine the amount of water required to irrigate the land under the system in vogue among the farmers in Lovelock Valley. The system, briefly stated, is that of using irrigating ditches, generally of uniform size and dimensions, and flooding the land, controlling and changing the water at different times during the day, and allowing it to take care of itself during the night, letting it run where it is supposed it will

> do the most good and least harm. This system is, perhaps, an easy and inexpensive one, but must necessarily result in a waste of the water which might, by the adoption of other systems—more expensive at the start, but cheaper in the end—be avoided, and enable the farmers to irrigate a much greater quantity of land with a less amount of water. But the system referred to is in universal use by the farmers in that district of country, and it is the duty of the court, in the absence of any law upon the subject, to determine the amount of water by a reference to the system used."

In *Rodgers v. Pitt*, 129 Fed. 932, the last of a series of cases relating to the same general controversy, one of which is cited above, the court says, upon the question of the amount of water to which the complainant was entitled:

> "What amount of water is necessary to properly irrigate an acre of land? These questions were involved and disposed of on the preliminary hearing (89 Fed. 423), and must now be disposed of by the weight of the testimony given upon the trial of the case. No additional facts were elicited at the trial which demand any change in the views that were then expressed. The amount of water necessary to irrigate the lands depends, in a greater or less degree, upon the general character of the soil in the locality where the lands are situated. The system in vogue among the farmers in Lovelock Valley is that of using irrigating ditches, generally of uniform size and dimensions, varied only by changed conditions, and turning the water through these ditches over the land, controlling and changing the water, as occasion requires, at different times during the day, and letting it run and take care of itself during the night, but arranged

where it is believed it will do the most good and least harm. Upon the preliminary hearing it was said: 'It is the duty of the court, in the absence of any law upon the subject, to determine the amount of water by a reference to the system used.' This necessarily implied that the system was a proper one under all the existing conditions."

In the course of the hearing, the question was raised from time to time, or if not definitely raised, was assumed to exist, as to whether irrigation for pasture was a beneficial use. This point is decided in Rodgers v. Pitt, 129 Fed. 932, where it is stated:

"In the estimates made by the defendants of the number of acres under cultivation on complainant's land, they apparently overlook the plowed ground, and ignore the number of acres of pasture land or wild grass that were irrigated. It is in effect claimed that the use of water for pasture and for wild hay was not for a beneficial purpose. The courts have held otherwise. In Pyke v. Burnside (Idaho), 69 Pac. 477, it was expressly held that where one constructs a ditch and conducts water upon his land year after year, and permits the same to spread out over wild hay land for the purpose of making hay or using such land for pasture, he thereby secures the right to the use of sufficient water to irrigate such land, provided the amount of water so used is sufficient for that purpose; such use being a beneficial one. In Smyth v. Neal, 31 Or. 105, 109, 49 Pac. 850, 851, the court said:

'It seems to have been a conceded proposition that the use of water for the irrigation of these wild meadow lands was for a useful purpose, and that such irrigation was necessary for the production of grass in sufficient

> quantities to be gathered and cured as feed for stock.'
>
> The theory advanced by defendants, that the rights of complainant should be limited to the amount of lands actually cultivated for crops and grain, cannot be sustained."

United States v. Bennett, 125 C. C. A. 186, 207 Fed. 524, L. R. A. 1916B, 1010, was an action in equity, brought by the United States in the District Court of the United States for the Eastern District of Washington, to restrain the defendants from diverting from the Salmon River, in that state, an amount of water in excess of 2½ acre feet per acre for certain lands owned by the defendants, and described in the complaint, amounting to 62.82 acres.

The government, proceeding under the provisions of the Federal Reclamation Act, appropriated all of the unappropriated waters of Salmon River in the county of Okanogan, in the state of Washington, for the Okanogan Irrigation Project, and constructed the necessary works for the utilization of the waters so appropriated for irrigation purposes in the vicinity.

During the year 1911, the amount of water available from all sources of supply for the benefit of consumers under the Okanogan project, was found to be insufficient, and there was a shortage of water during the latter portion of the irrigating season.

The bill of complaint alleged that the lands of the defendants susceptible of irrigation, do not exceed 50 acres; that such lands required not more than 2½ acre

feet per acre of water to sufficiently and properly irrigate the same; that a use of a greater amount of water is not only unnecessary, but absolutely detrimental to the growing of crops thereon; that notwithstanding this, defendants have unnecessarily, wastefully, and uselessly diverted, consumed, and used of and from the waters of the Salmon River 11 acre feet of water per acre in each season, thereby depriving the plaintiff of water which it could, and otherwise would have used for the necessary and beneficial purposes mentioned in the complaint.

The trial court heard the testimony in open court and entered a decree allowing defendants 1½ cubic feet of water per second, or an equivalent to 7.02 acre feet for the season, to be measured at the point of diversion from the Salmon River.

The Circuit Court of Appeals declared:

> "We do not think the water allowed the defendants by the decree is in excess of what is required for such land according to the usual course of husbandry in which the defendants are engaged."

Also:

> "But we know of no law requiring the appropriator of water to change his system of husbandry to conform to some other system where less water is required. In other words, we know of no law requiring the defendants in this case to cease diverting water for the irrigation of alfalfa or other forage crops heretofore grown on their land, and compelling them to reduce their diversion to that required for an orchard or other use requiring less water; nor do we know of any law requir-

> ing them to reduce their appropriation of water to the quantity required for a less gravelly and porous soil simply because there is a better soil in the neighborhood requiring less water. What is required of the appropriator is that he shall not waste the water appropriated, but shall put it to a beneficial use in accordance with the requirements of the husbandry in which he is engaged. In our opinion the decree of the court below conforms to such requirements."

Little Walla Irr. Union v. Finis Irr. Co., 124 Pac. (Or.) 666.

This suit was brought for the purpose of determining amounts and priorities of water rights on the Walla Walla River. Among the principal questions involved were the duty of water for irrigation purposes and economical methods of use.

The settlers, by taking advantage of the United States statute of 1866, had acquired title to the use of water, at least to the amount needed and used, and the adverse claimants in such litigation endeavored to reduce the amount to which they supposed their title was perfect, on the principle of reasonable and economical use. The court says:

> "Their methods of use have been those which were the least expensive, and, no doubt, to some extent were extravagant, yet they cannot be expected to install methods now that might reduce to a minimum the amount of water necessary, at a cost that would absorb the profits."

Further:

> "A great saving in the amount of water may be possible by adopting the government reclamation

methods (cited as authority here) of cement ditches, to prevent both seepage and evaporation, with experts to follow and apply the water, by which it is contended that a half inch to the acre is sufficient; but at this time it is to some extent an experiment whether the investment on that basis will be remunerative, at least on the small farms."

Again:

"Furthermore, these government projects are for a new and an original use of water, upon which the government can impose such terms as it may see fit. Here the users have acquired the land and applied the water, which are valuable under present conditions, and their rights therein are vested, and we can require them only to use the water economically and reduce the quantity to a minimum by reasonable and cheap methods according to their situation and condition."

Farnham on Waters and Water Rights, in Vol. 3, Sec. 675, says:

"While a prior appropriator of water can claim only the amount which is necessary to supply his needs, and can permit no water to go to waste, he is not bound to adopt the best means for utilizing the water or take extraordinary precautions to prevent waste. He is entitled to make a reasonable use of the water according to the custom of the locality, and, as long as he does so, other persons cannot complain of his acts. The amount of water required by an appropriator to irrigate his lands should be determined by reference to the system used, although it results in a waste of water which might be avoided by the adoption of another system."

Wiel on Water Rights in the Western States, 3rd Ed. Sec. 481, says:

> "In determining the amount of water which a user applies to a beneficial use, and to which he is entitled as against a subsequent appropriator, the system of irrigation in common use in the locality, if reasonable and proper under existing conditions, is to be taken as the standard, although a more economical method might be adopted."

Nephi Irr. Co. v. Vickers (1905), 29 Utah, 315, 81 Pac. 144, was an action in which plaintiffs' right to quiet title to all the waters of Salt Creek and certain of its tributaries, and to enjoin defendant from interfering with any of the waters of those streams. The question was involved as to the quantity of water reasonably required to properly irrigate appellant's lands; also whether a subsequent appropriator could compel him to furrow his land before irrigation. The court, having decided that the findings and judgment are erroneous and contravene the rights of the appellant, says:

> "As appears from the proof, the appellant applied the water in an ordinary and usual way, and he was not bound to furrow his land before irrigation. So long as he used the water without waste, and in accordance with his appropriation, no one has a right to complain, and under such circumstances the court cannot change his manner of use."

The rule of conformity to "common use in the locality," or "to the custom of the locality," in regard to

water rights by appropriation, is supported by Barrows v. Fox, 98 Cal. 63, in which it is held:

> "Ditches and flumes are the usual and ordinary means of diverting water in this state, and parties who have made their appropriations by such means cannot be compelled to substitute iron pipes, though they may be compelled to keep their flumes and ditches in good repair so as to prevent any unnecessary waste."

We take it that the foregoing authorities clearly show that each of the defendants, as a prior appropriator, "is entitled to make a reasonable use of the waters of Bishop Creek, according to the custom of the locality, and, as long as he does so, other persons cannot complain of his acts."

Counsel for plaintiffs, at page 23 of their brief, speaking of the rights of appropriation of the defendants, declare that they are "not rights at all, but out of date habits which must yield to the greater needs of the present." And then counsel go on to say,

"Nor is this principle confined to water rights. Respecting every kind of property we find ourselves constantly and increasingly limited in our use of it by the rights of others and of society in general. It would hardly be contended by counsel that the owner of a lot in the city of Los Angeles could maintain the same in a filthy, unsanitary condition by using thereon the method of sewage disposal which had been employed ever since the days of the pueblo. Could a property owner suggest with any hope of success that the city in compelling him to install modern sanitary devices was invading his 'rights'? Doubtless it would be easier and cheaper for him to use the antiquated methods, just as it is easier and cheaper to use antiquated methods of

irrigation. Could a manufacturing company claim that its 'rights' were being unduly constricted by the requirement that modern methods of smoke disposal be adopted? Doubtless the old method would be easier and cheaper and in that sense a valuable 'right'. Cannot a fruit grower be required to spray his trees to prevent the spread of enemy parasites or a sheep herder to dip his sheep? Are not their 'rights' affected by these 'modern,' 'scientific' and 'expert' ideas. Is society to be relegated to the dark ages simply because everything scientific, efficient or modern is anathema in the nostrils of those who prefer their 'ancient solitary reign'?"

It will be observed that counsel, in urging their views of the rules of law governing the respective rights of defendants and plaintiffs as prior and subsequent appropriators on Bishop Creek, have wandered, inadvertently, as we believe, into the field of police powers by which the state is enabled to impose restrictions upon private property in the interest of the general welfare. There is, however, nothing in the police powers of the state which may be invoked by plaintiffs to effect a reduction or curtailment of the property rights of the defendants or a transfer of any such rights to the plaintiffs. We recognize the fact that all property is held subject to that inherent and plenary power in the state which enables it to prohibit all things hurtful to the comfort, safety and welfare of society, but this power cannot be employed to deprive one person of his property in order to give it to another. As stated in Smiley v. MacDonald, 27 L. R. A. (Neb.) 540:

> "It may, however, with safety be asserted that the legislature cannot under the guise of police

> regulations arbitrarily invade personal rights and private property. On the other hand it should appear to the court, when such regulations are called in question, that they have in fact some relation to the public health or public welfare and that such is the end sought to be attained thereby."

Suffice it to say that the legislature of California has not attempted, "under the guise of police regulations," to prescribe conditions of use of water under appropriations from streams which give ground for any claim by plaintiffs that the Bishop Creek system is an outlaw and must be discarded for more modern methods.

Granting that it may be said of the Bishop system what Judge Hawley, in Rodgers v. Pitt, 89 Fed. 420, said of the Lovelock Valley system, namely:

> "This system is, perhaps, an easy and inexpensive one, but must necessarily result in a waste of the water which might, by the adoption of other systems—more expensive at the start but cheaper in the end—be avoided, and enable the farmers to irrigate a much greater quantity of land with a less amount of water."

Still, it may also be said of the Bishop system what Judge Hawley said of the Lovelock Valley system, namely:

> "But the system referred to is in universal use by the farmers in that district of country, and it is the duty of the court, in the absence of any law on the subject, to determine the amount of water by a reference to the system used."

In the Rodgers v. Pitt case, the court found no law requiring the irrigators to adopt an improved system.

Neither is there any law in this state requiring the irrigators on Bishop Creek to adopt a more modern and efficient system than that under which their lands have been served for well on to half a century.

II.

The Appropriations of Defendants Are Prior in Time and Right, and Are Unimpaired by the Alleged Adverse Use of Plaintiffs.

As correctly stated by counsel for plaintiffs, at page 45 of their brief, eferring to the water rights of the defendants in Bishop Creek, "most of the rights antedate 1877."

The evidence shows that the entire normal flow of Bishop Creek had been appropriated by defendants, or their predecessors in interest, long prior to the earliest claim of any of the plaintiffs, which was the appropriation of S. P. MacKnight on November 19, 1887, for 8,000 miner's inches of water, and which was subsequently assigned to the Hillside Water Company. This appropriation was made at the site of the original Hillside Reservoir, on the south fork of the creek.

The lands embraced in the cross-fill amount to 11,027 acres. This includes lands entirely irrigated from Bishop Creek, lands irrigated partly from that creek and partly from other sources, and lands irrigated from other sources or not irrigated at all.

The lands irrigated from Bishop Creek aggregate the equivalent of 8,570.3 acres. Mr. Clausen, as a wit-

ness, used as the basis of his determination of the proper duty of water the figure of 8,796 acres, owned by defendants and irrigated entirely from Bishop Creek. The figure 8,570.3 acres was arrived at by making certain corrections which the evidence indicated were proper and necessary.

We have prepared and appended to this brief, as Appendix "A," a tabulation of the various acreages of the defendants embraced in such corrected total, together with an analysis and study showing the basis, according to the evidence, of the figure expressing the net irrigated acreage, to-wit, 8,570.3 acres.

By way of explanation, we wish to state, that in our study of area irrigated and water duty on Bishop Creek, we have included the 216 acres of defendants Powers and Watterson Brothers, although the appropriation for their lands, while prior to the rights of plaintiffs, only dates back to 1886. The inclusion of these lands is offset by acreage in the town of Bishop having rights in the creek initiated long prior to 1886 but not represented by any defendants in this case. This arrangement, as we feel, does not detract at all from the accuracy of the results of our study.

Reference to such appendix will show that it contains various columns of data, as follows: Column 1, giving the names of defendants; column 2, giving the pages of the transcript where testimony may be found; column 3, giving total acreage included in cross-bill; column 4, giving the lands either not irrigated from Bishop Creek or irrigated from that creek and not owned by defend-

ants, or owned by defendants and irrigated from that creek under right derived from Hillside Water Company; column 5, giving the lands of defendants which have never been irrigated; column 6, giving the acreage of defendants owning Bishop Creek Canal stock and excluded on basis of one acre per share; column 7, giving the net acreage entitled to irrigation from Bishop Creek; and column 8, giving the acreage of stipulated priorities.

The matters embraced in columns 1, 2, 3, 5 and 7 are self explanatory and require no discussion.

Column 4 includes 203 acres in the town of Bishop, owned by parties not joined in this suit, and composed of a number of independent holdings which are irrigated by surface ditches from Bishop Creek; also 40 acres of M. A. Yandell, which is irrigated under a right acquired from the Hillside Water Company. This column also includes 10 acres of defendant C. M. Dixon, 24 acres of defendant W. E. Goodwin, 25 acres of defendant Louis Pauly, 6 acres of defendant R. J. Schober, and 15 acres of defendant J. M. Thomas, which are and have been irrigated from the Owens River Canal. The remainder of their respective holdings have always been irrigated from Bishop Creek, excepting that defendant J. M. Thomas, in addition to the 15 acres mentioned, has, during the past two years, on account of shortage, irrigated 25 acres from the canal.

Column 4 also includes 60 acres of defendant R. D. Brierly, 25 acres of defendant J. A. Cashbaugh (parcel

2), 82 acres of defendant George W. Garner, 14 acres of defendant J. M. Garner, 80 acres of defendant Mary E. B. Leidy and 160 acres of defendant R. W. Scott, which are and have been irrigated from the Bishop Creek Canal; also 40 acres of defendant Katherine Dehy, which is and has been irrigated from the Farmers' Ditch. The remainder of the holdings of these defendants have always been irrigated from Bishop Creek, excepting that 80 acres of parcel 3 of defendant J. A. Cashbaugh has been irrigated partly from Bishop Creek and partly from Bishop Creek Canal.

Counsel for plaintiffs take the position that the defendants who have canal stock are, to the extent of their holdings on the basis of one share per acre, precluded from asserting rights by appropriation in the creek, and this regardless of the extent to which the stock has been used for irrigating their lands. For example, they say, "It is now impossible for any defendant to claim water in Bishop Creek for land for which he holds stock in the canal." (Plffs.' Op. Brief, pp. 84-7.)

The position of counsel is, that, if a defendant, for instance, has 100 acres of land and acquires 100 shares of canal stock, he may assert no rights in the creek, even though his land has always been irrigated exclusively from the creek. Counsel cite no law to sustain this contention, and of course there is no such law. Manifestly, if a water right by appropriation, appurtenant to a parcel of land, has been established in the

manner provided by law, and the owner continues to apply the water to beneficial use thereon, that right does not cease to exist merely because such owner purchases, inherits or otherwise acquires stock which entitles him to a supply of water from a canal for his land if he chooses to demand such water.

Stock in a canal is not attached nor made appurtenant to particular land, but passes from hand to hand. This is certainly true as to land upon which the stock has not been used. The form of certificates of stock in the Owens River Canal and Bishop Creek Canal was put in evidence [Tr. p. 2113 and p. 2424] and they do not provide for any designation of lands to be irrigated from the canal. Counsel for plaintiffs at the hearing, in connection with the testimony of William A. Cashbaugh, gave the correct legal situation regarding such stock. We quote from a statement of Mr. Swallow as follows [Tr. p. 1838]:

"In fact, the way we do business down in this country is this, that none of this stock is appurtenant to anything. The stock is not appurtenant to any particular land?

The witness: No."

We will now give consideration to column 6 of Appendix "A."

(a) *Additional lands below Bishop Creek Canal brought under creek supply in 1887.* Column 7 shows a total of 8,570 acres plus, now owned by defendants, which have been irrigated from Bishop Creek under appropriations initiated in 1887 and prior thereto A

considerable portion of this acreage is situated below Bishop Creek Canal. The construction of the Kinsley Ditch in the late 80's resulted, as shown by Appendix "A," in bringing under the creek supply an additional 783 acres below the canal, including Bodle, 100 acres; Cashbaugh, 206 acres; Compton (Meade), 138 acres; Marquam, 67 acres; Mayhew, 49 acres; Sullivan, 50 acres; and Summers, 173 acres.

The effect of this increase was to bring about, from time to time, a shortage of supply, particularly in the early spring and fall, affecting 2,020 acres lying below the canal, including 1,237 acres of the aforesaid 8,570 acres and the additional 783 acres mentioned. The 1,237 acres includes J. A. and W. A. Cashbaugh and Cashbaugh Estate, 70 acres; Carrie Currie, 79 acres; John Dehy, 315 acres; Davis, 39 acres; B. I. Garner, 125 acres; Hartwig, 80 acres; Mayhew, 50 acres; Newlan, 50 acres; Sullivan, 50 acres; Summers, 80 acres; Teare, 138.5 acres; and Tweedy, 160 acres.

To relieve the condition of shortage affecting such acrea of 2,020 acres, the farmers, beginning in 1888, resorted to the canal for a supplementary supply.

However, according to the evidence, rights by actual appropriation in Bishop Creek for 9,353 acres now owned by defendants and included in the cross-bill, were initiated prior to any appropriations of the plaintiffs, or their predecessors in interest, and the entire 9,353 acres has, in whole or in part, been irrigated from Bishop Creek ever since.

(b) *Proportion of supply from creek and canal respectively.* The evidence plainly shows that less than forty per cent of the supply to meet the shortage affecting the 2,020 acres below the canal, came from the canal, the rest, of course, coming from the creek. This conclusion results from a consideration of facts established by the evidence.

As we have pointed out, the area supplied from the creek in 1887 or earlier, was 8,570 acres. This acreage represented the amount of land which long experience had determined that the average flow of the creek, year after year, would take care of. The controlling and limiting condition of the supply was the discharge during the first and last months of the irrigating season. To add a substantial acreage to this area meant that, while, perhaps, the high flow of the creek would ordinarily be sufficient for the enlarged area, yet, sooner or later, the spring supply, anyhow, would fall short of the requirements of the land in the section where the additional acreage had been brought under the creek supply. We have designated above the lands which, according to the evidence, were affected by the inevitable shortage, and constituting 1,237 acres of the old area and the additional 783 acres mentioned. Since then, but for the added area, the regular creek supply would have sufficed for this 8,570 acres, it follows that the shortage affecting the 2,020 acres, and resulting from the addition of the 783 acres, was measured and determined by the water requirements of the added lands. Therefore, the quantity of water obtained from

the canal to meet the deficiency on the 2,020 acres was in the ratio of 783 to 2,020, and, necessarily, the quantity of water obtained from the creek to meet the deficiency on such area was in the ratio of 1,237 to 2,020. In other words, the canal supply in such area, at its maximum, has not exceeded forty per cent of the total supply for such area.

The ratio of 783 to 1237, as representing the percentage of canal and creek water respectively supplied on the area of 2,020 acres affected by such shortage, is supported by a study of the holdings and use of Bishop Creek Canal stock as shown by the evidence. In making such study we have proceeded on the assumption, which seems to us fair and reasonable, that the stock, when used, was applied on the basis of one share to the acre, and that where the holder of stock had more shares than acres, he obtained one-half his supply from the canal and one-half from the creek, and where the holder had less shares than half his acreage, the deficiency of supply, after applying the stock, was all obtained from the creek. The detail of such study is contained in Appendix "B," attached to this brief and the results thereof are also reflected in columns 6 and 7 of Appendix "A."

Column 8 of Appendix "A" includes 5,575.9 acres of the total 11,027 acres embraced in the cross-bill, for which priority of rights in Bishop Creek by appropriation was conceded by counsel for plaintiffs, at the hearing. Near the close of the hearing a list of such

conceded priorities was prepared by counsel for defendants and furnished counsel for plaintiffs.

A list of the lands owned by defendants, included in the cross-bill, for which priority of water rights is not stipulated, but is proven, showing the names of the defendant owners, acreages, and references to pages of the transcript, is contained in Appendix "C" of this brief.

Taking up now the claim of plaintiffs to title by prescription or adverse use, we submit:

(a) *The burden of proof is on the claimant of the adverse title.* The requisites of adverse use to give title to a water right are, as usually stated, it must have been open, notorious, continuous for the statutory period, uninterrupted and under a claim of right, or color of title. Wiel on Water Rights, etc., Vol. 1, 3rd ed., Sec. 582, *et seq.*

Alta Land etc. Co. v. Hancock, 85 Cal. 219, defines the adverse enjoyment necessary to a prescriptive right to the diversion and use of water as follows:

> "This right becomes fixed only after five years' adverse enjoyment. (Crandall v. Woods, 8 Cal. 136; Union Water Co. v. Crary, 25 Cal. 504; 85 Am. Dec. 145.)"
>
> "And to have been adverse, it must have been asserted under claim of title, with the knowledge and acquiescence of the person having the prior right, and must have been uninterrupted. (American Co. v. Bradford, 27 Cal. 360.)"
>
> "In order to constitute a right, by prescription, there must have been such an invasion of the

rights of the party against whom it is claimed that he would have had ground of action against the intruder. (Anaheim Water Co. v. Semi-Tropic Water Co., 64 Cal. 185.)"

"To be adverse, it must be accompanied by all the elements required to make out an adverse possession; the possession must be by actual occupation, open, notorious, and not clandestine; it must be hostile to the other's title; it must be held under claim of title, exclusive of any other right, as one's own; it must be continuous and *uninterrupted* for the period of five years. (Thomas v. England, 71 Cal. 458.)"

Among the many authorities that might be cited on the question of the burden of proof, we will only quote from a few, as follows:

"The burden of proof is upon the adverse claimant."

Wiel on Water Rights, etc., Vol. 1, 3rd ed, Sec. 579.

In *Smith v. Duff*, 102 Pac. (Mont.) 981, the court, speaking of a plea of adverse title to the use of water, says:

"The appellants having alleged themselves to be the owners of the right to use the waters claimed by them, the burden is on them to prove it."

Also,

"Because of the nature of the right, the elements constituting it must be proven satisfactorily and unequivocally; and no doubtful inferences will suffice."

Smith v. Duff, *supra*.

Also,

"It is essential that the use be shown to have been adverse. Proof of the mere use of the water during the statutory period is not sufficient. It is necessary that during the entire period an action could have been maintained against the party claiming the water by adverse user by the party against whom the claim is made."

Smith v. Duff, *supra.*

"The right which the defendants claim under the grant, which they assumed to exist, as evidenced by their adverse use and enjoyment of the water for five years, they denominate an easement. * * * The burden of proving this is on the party claiming the easement. If he leaves it doubtful whether the enjoyment was adverse, known to the owner and uninterrupted, it is not conclusive in his favor."

American Co. v. Bradford, 27 Cal. 360.

The burden of proving uninterrupted user, with knowledge of the owner, is on the party claiming by prescription. (American Co. v. Bradford, 27 Cal. 360.)

Ball v. Kehl, 95 Cal. 606.

"* * * the burden of proof is upon the person in possession and claiming against the holder of the legal title to show that his occupancy is hostile and not subordinate to the legal title. He must prove all the essential elements of adverse possession. (Sharp v. Daughney, 33 Cal. 505; De Frieze v. Quint, 94 Cal. 653; (28 Am. St. Rep. 151, 30 Pac. 1); Ball v. Kehl, 95 Cal. 606, (30 Pac. 780); Baldwin v. Temple, 101 Cal. 396, (35 Pac. 1008); 2 Am. & Eng. Ency. of Law and Prac. 363.)

Janke v. McMahon, 21 Cal. App. 781, 785.

(b) *Plaintiffs failed to establish adverse title.* Plaintiffs' claims of right and title, by adverse use, in and to the waters of Bishop Creek, referred to and described in the earlier part of this brief, were set up at pages 70 to 93, inclusive, of their "further and separate answer and defense to the cross-bills." Such adverse use is alleged to have been exercised by the Hillside Water Company and Nevada-California Power Company as follows:

"For more than ten years last past openly, notoriously, continuously, uninterruptedly and peaceably (except as above stated), and exclusively, and under claim of right, and in good faith and with the full knowledge of the said cross-complainants and their predecessors in interest, and each and all of them, and adversely to the said cross-complainants and their predecessors in interest, and each and all of them and the whole world."

As to the Southern Sierras Power Company, the alleged period of adverse use is "more than five years prior to the commencement of this action."

The exception contained in such statement of adverse use evidently refers to the excursion of Bishop Creek farmers to the Hillside reservoir in June, 1919, and their alleged forcible release of water from that reservoir for use on their lands below.

Such defense of adverse title as against the defendants, must, of course, be taken as based upon the implication that the property thus claimed to have been acquired was formerly vested in the defendants. In Little Walla Irr. Union v. Finis Irr. Co., 124 Pac. (Or.) 666,

several of the defendants, by their answers, asserted title by adverse use to water which was the subject of the action. The court says, regarding this situation:

> "To constitute such title to running water against a prior appropriation, it is necessary to show a continuous use for a period of ten years under a claim of title, and to establishh that such use deprived the person from whom the adverse title is claimed to have been acquired of water to which he was entitled, and for which diversion he would have a cause of action."

Plaintiffs having, by their plea of title by adverse use, conceded, for the purposes of such defense at least, that title to the water was formerly vested in the defendants but through adverse use has passed to the plaintiffs, has, as we have seen, the burden of showing that for at least five years they have openly, notoriously, continuously, and adversely to the defendants, and under claim of right, exercised the rights in and to the waters of the creek to which they assert title. Starting then with the situation established by the evidence, and conceded by the plea of title by adverse use, that prior rights thereto were formerly vested in the defendants, we have now to consider the question whether the plaintiffs have sustained their special defense and shown that they have gained title by adverse use, as alleged by them. We assert that plaintiffs have completely failed to make good their plea of adverse title.

The evidence regarding plaintiffs' appropriation and use of the waters of the creek in relation to their claim of adverse title, may be considered under four

heads, first, original Hillside reservoir and irrigation of Hillside lands; second, construction and operation of enlarged Hillside and Sabrina reservoirs; third, fluctuations; and fourth, interruptions of alleged adverse use.

1. *Original Hillside reservoir and irrigation of Hillside lands.* The following facts contained in the evidence should be noted.

First appropriation made by MacKnight on November 19, 1887. [Tr. p. 44.]

Construction of original Hillside reservoir begun in 1888. [Tr. p. 45.]

Reservoir completed in 1892. [Tr. p. 50.]

Notice of appropriation of old North Hillside ditch posted on November 19, 1888. [Tr. p. 54.]

Work of constructing ditch begun in December, 1889. [Tr. p. 57.]

Took water from creek to irrigate small vineyard in January, 1890. [Tr. pp. 57-8.]

Diverted water for an orchard of 80 acres in spring of 1890. Took up and moved vineyard same spring. [Tr. p. 58.]

Notice of appropriation for old South Hillside ditch posted December 19, 1888. [Tr. p. 54.]

Construction of ditch commenced in fall of 1890.

Dam broke in August, 1896. [Tr. p. 68.]

No real irrigataion was undertaken through the old South Hillside ditch prior to 1896, when MacKnight left the company [Tr. p. 72], and only 120 acres of

lands of the company were irrigated up to 1896. [Tr. p. 76.]

New North Hillside ditch constructed in 1907. [Tr. p. 102.]

New South Hillside ditch constructed in 1913. [Tr. p. 101.]

In the operation of the reservoir the gates were shut in the fall and remained closed until about the latter part of July, or the first part of August, when they were opened and the stored water let down. [Tr. pp. 240-1.] The reservoir was operated in pursuance of the policy and intention to catch the waters of the stream only at times when they were not needed by the irrigators below. [Tr. p. 242.]

It was the intention of the Hillside Water Company, in posting notices for its reservoirs, and in constructing the same, to take only unappropriated water sufficient to fill the reservoirs. [Tr. p. 244.]

Total acreage of Hillside lands irrigated from Bishop Creek, on June 12, 1919, during the five years preceding June 12, 1919, was 575 acres, including only lands owned by the company on the last mentioned date, and covering 400 acres on the north side and 175 acres on the south side of Bishop Creek. [Tr. p. 447.]

2. *Construction and operation of enlarged Hillside and Sabrina reservoirs.* The evidence shows:

Preliminary surveys for Sabrina reservoir begun in 1906. [Tr. p. 94.]

Actual construction of reservoir begun in 1907, and finished in 1909. [Tr. p. 94.]

Construction of enlarged Hillside reservoir begun in 1908 and completed in 1910. [Tr. pp. 97-8.]

On February 26, 1906, a meeting was held at Bishop, California, between Charles F. Potter, attorney representing the Nevada Power, Mining and Milling Company, parent company of the Nevada California Power Company, and Southern Sierras Power Company, and a delegation appearing in behalf of the Bishop Creek Water Association, an unincorporated organization composed of owners of the older water rights on Bishop Creek, in reference to the proposed establishment by the company of storage on that creek in connection with power development. Such meeting resulted in an agreement being made, signed in behalf of the company by Mr. Potter, and in behalf of the association by its president and secretary, a copy of which was introduced in evidence [Tr. p. 17] as Plaintiffs' Exhibit 23. Such meeting and the resulting agreement may be said to have initiated the open, notorious and declared policy of the power interests regarding irrigation on Bishop Creek.

Such agreement expressly recites that the waters proposed to be stored and impounded were the "waste and surplus water of said Bishop Creek."

Also, that the Power Company had applied to the United States Government for certain rights of way and

"permission to so store and impound the said waste and surplus waters, and contemplate further applications for that purpose, and upon favorable action of the government in that respect to construct the necessary dam or dams and create the necessary reservoir or reservoirs for said purpose."

Also, that the Power Company proposes to utilize the reservoir site theretofore located by the Hillside Water Company, or a portion thereof, as well as the "subsequent locations" made by the Power Company.

Also, that "the impounding and storing of said waste and surplus waters" by the company will, in the use thereof after the same has been used by the company, be of great benefit to such association and its members.

The agreement then provides "that all the said waste and surplus water so stored and impounded" by the Power Company, after its use for the purposes of power development, shall be returned to the creek below the works and plants of the company and thence be subject to the control of the association, and "to be used for irrigation purposes by the parties entitled thereto, as the users and appropriators of water, and owners of the land to which said waters are appurtenant, upon and adjacent to said Bishop Creek."

Also, that the association shall assist the company in securing the proper and necessary rights of way, and permission to impound and store "the surplus and waste waters of said Bishop Creek."

Arthur A. Shirley, who was present as a representative of the association at the meeting of February 26, 1906, testified [Tr. p. 2454]:

"So Mr. Potter stated that they intended to store nothing but waste and surplus waters from Bishop Creek. I remember Mr. Schober getting up and asking what he meant by that, and he said that the waters that they did not need—that otherwise would go to the river."

Also,

"* * * he said the policy of the company was to equate the flow of Bishop Creek to a certain amount, and we would all be better off; that we would have more water in the irrigating season; and our right in the flood season would not be affected."

On July 21, 1908, a meeting was held between Messrs. Potter, Poole, Chapelle and Harvey Adams, officers or agents representing the Nevada California Power Company and the Hillside Water Company, and N. J. Cooley, Wm. Rowan, W. P. Yaney and S. J. Newlan, representing the Bishop Creek Water Association, to discuss operations of the companies on the creek interfering with the supply of the irrigators. [Tr. p. 2483.]

Mr. Chapelle stated the purpose of the meeting. [Tr. p. 2486.] He said:

"I want to make it the purpose of this meeting to discuss the water question and see what we can do to develop a better water service for irrigation, and then I want to see what the Power Company and Hillside Company, whom we represent here at this time, can do to relieve the situation."

He also stated that he believed the development of the companies on the creek would flow 100 second feet for 365 days in the year. [Tr. p. 2486.]

The representatives of the company acknowledged that the Hillside Company was not right in using water in a short season. [Tr. p. 2487.]

Mr. Chapelle also stated [Tr. pp. 2487-8]:

"Now what I want to assure you is this, without any question the Hillside reservoir will give you more water than you've got, but the Hillside Ranch cannot have what don't belong to it."

Also,

"The Hillside Ranch can go to hell."

The representatives of the companies asked that the Hillside Company be put on an equal footing with the association, but were told by the directors of the association that such a thing was impossible. [Tr. p. 2488.]

Mr. Chapelle, referring to the diversion of water from the creek for the Hillside lands, and with a view of subordinating the irrigation of those lands to the requirements of the farmers below, stated [Tr. p. 2489]:

"I want you gentlemen to feel that we are here and still with you in anything you can sustain in the building up of water for the benefit of the association."

Also [Tr. p. 2490]:

"We would like to live harmonious with you by being honest. Put a dependent man there to take care of the thing and put locks on the gates."

Mr. Chapelle closed the meeting with these words [Tr. p. 2490]:

"I want you to feel we are trying to work out a proposition. You command our legal department and engineering department and can in time command the treasury of this company to a certain extent, which we think is sufficient to secure your confidence. All I ask is co-operation, we will place locks on the gates and then we will not get any more water than you want us to have."

The evidence detailed above, showing the operations and attitude of the companies on Bishop Creek, as affecting the rights and interests of the irrigators below, gives no support whatever to the claim of plaintiffs to title by adverse use as against the defendants and their predecessors. So far as such evidence goes, it clearly indicates that the companies, in initiating and establishing their interests on Bishop Creek, did not intend to deprive the irrigators of any of their rights or to lay the ground for adverse claims to the waters of that stream.

The years 1909 to 1911, inclusive, were wet years, as shown by Plaintiffs' Exhibit "1-F", and there was no apparent invasion of the rights of the prior appropriators during that period, but a shortage occurred in the season of 1912 and extended into the next year, resulting in a deficiency seriously affecting such appropriators.

Under date of March 7, 1913, I. B. Potter, attorney of the companies, addressed a letter to W. P. Yaney, president of the Bishop Creek Water Association, on

the subject of water rights in Bishop Creek. [Tr. p. 2644 *et seq.*] This letter takes note of the fact that officers of the association, "doubtless with the intent of saving the rights of its members," have served notices upon the companies.

The letter of the attorney for the companies is written with the view, as he states, "of assuring you as fully as possible that no action of the Power Company has been taken without full regard to the rights of all users of the water in question, and that the company intends, not only to respect the rights of these water users, but to assist and co-operate with them in every reasonable way in the enjoyment of these rights for the benefit of all concerned."

The letter then refers to the agreement of February 26, 1906, and particularly to the provision thereof in reference to the storing and impounding by the Power Company of "waste and surplus waters," and calls attention to the fact that "the water used by the company is and will be all returned to the stream at the point designated by the terms of this agreement."

Then mention is made in the letter of Indian ditch, and the writer gives assurance that the company intends that all water which formerly flowed into that ditch "will still be turned into that ditch, and that none of the water users who obtain their water from that source would be in any manner injured or their supply lessened by any of the work which the company is now prosecuting."

This letter in no way asserts, or lays the foundation for asserting, an adverse claim or title against the irrigators. It does not assert, or lay the foundation for asserting, that the companies have the purpose, or have or intend to exercise the right to store or release the waters of Bishop Creek "at such times and in such quantities and in such manner as might be required for the proper operation of the power plants" of the companies on Bishop Creek, or so as to make available to the irrigators any specified or limited quantity of water.

The letter is entirely deferential to the prior rights and claims of the irrigators, and gives no support whatever to the companies' assertion in this case of open, notorious and adverse use of the waters of the creek "under claim of right."

In the spring of 1913 the attention of the companies was called to the fact that they were storing water, and that the farmers were short of water; that practically all their ranches were dry, and demand was made upon the agent or representative of the companies to release water from their reservoirs. As stated by witness Shirley, who was present on May 30, 1913, when this matter was being taken up by the board of directors of the association with Mr. Criddle, an officer and agent, and Mr. Swallow, attorney of the companies [Tr. p. 2463]:

"* * * finally Mr. Rowan told Mr. Swallow that the water had to be here at nine o'clock next morning, or we would go after it. And that night it came;

an abundance of water. The zanjero told me that he had to work all night, pretty near, taking care of it. From that time on we had plenty of water."

This event, also, is inconsistent with any claim of right or title by the companies to withhold the waters of the creek when needed by the farmers. The assertion by the latter of their rights, and the fact that the companies found it advisable and necessary to comply with their demands on this occasion, led to an arrangement, of which we will speak presently, between the companies and the irrigators in respect to the diversion of water from the creek for the Hillside lands and complete recognition of the prior rights of the users below.

The association, while composed of land owners having first rights in the stream—rights initiated in 1877 or prior, did not confine its ordinary operations to the lands of its members only, but gave attention to the distribution of water from the creek to other users, not including the Hillside lands, having what was termed "second rights." The supply was handled on the basis of giving the members of the association what they needed, first, and if there was any surplus, turning it over to the users having these second rights. [Tr. pp. 467, 1161, 2195.]

In 1913 the operations of the association were still further extended to meet a condition of shortage affecting the members of the association and the other users under its care. Along about the middle of that year, N. J. Cooley, secretary of the association, was, by

agreement of the association and the companies, put in charge of all diversions for irrigation, including the Hillside lands as well as the lands of the farmers below. [Tr. pp. 1136 *et seq.*, 2463.]

Under this plan, whenever, the zanjero of the association, who handled the water for all irrigation interests, was short of water he would notify Cooley and the latter would have the quantity needed released from the reservoir. [Tr. pp. 1136 *et seq.*, 2463.] The Hillside lands were only given water when there was plenty of water for the other irrigators. [Tr. pp. 1138, 2465-6.]

Cooley remained in the position of water administrator until January, 1914. He was succeeded by others who exercised like functions, until 1918. [Tr. pp. 1169-70, 2463-4.]

C. N. Shephard was employed by the association as zanjero in 1918. His policy regarding those lands was, as testified by him, "when there was a surplus of water I notified them and let them have it, and when there was not, I shut them off." [Tr. p. 2189.] One Hunter was superintendent of the Hillside ranches. [Tr. pp. 2189-90.] Shephard further testified [Tr. p. 2191]:

"Q. Now, upon what basis, or in what manner, did you handle the water as between the Hillside lands and the other users of Bishop Creek water?

A. I never gave the Hillside any water, except over and above what the Bishop Creek users used. If I had any surplus water over and above what they used, I used to turn Mr. Hunter some water."

When the superintendent of the Hillside land wanted water he made application to the association's zanjero. [Tr. pp. 2189-90.]

Afterwards, in 1918, upon demand of the association, the Hillside Company turned over the keys to its gates to the zanjero, thus giving him complete control of the supply for that company's lands. [Tr. pp. 1136-37, 2190-91.]

The president of the association, in explaining to the officers of the companies why the keys were demanded, stated that it was to prevent a prescriptive right from being gained. Mr. Poole, chief engineer of the three plaintiff companies, of whom such demand was made, stated that they did not want a prescriptive right, and, after taking time to consider the demand, the keys were delivered up. [Tr. p. 1137.] This was on May 22, 1918. [Tr. p. 1157.] Duplicate keys were retained by the company "for the purpose of closing or shutting down these gates when necessary, but not for the purpose of opening the same." [Tr. p. 1157.]

The chief engineer of the Hillside Company at the same time advised the tenant on lands of the company of the arrangement with the association, and notified him that "under no conditions should you open the gates of the ditch to obtain water, but always obtain it through the zanjero of the Bishop Creek Water Association." [Tr. p. 1160.]

On August 31, 1918, the Hillside Company gave notice of the termination of the arrangement under which the association had been given control of the

diversion of water for the lands of that company, demanding the return of the keys. [Tr. p. 2806 *et seq.*]

The water supply for the farmers in the spring and early summer of 1919 was short practically throughout the Bishop area. Crops suffered and considerable damage resulted. President Young of the association gave a detailed description of these conditions [Tr. p. 1133 *et seq.*] and other witnesses, some describing the territory generally, and others, principally farmers, telling of their experience on their own places, testified to the same effect. The needs of the irrigators becoming acute, the trip to the Hillside reservoir resulted, and there the present litigation had its inception.

3. *Fluctuations.* The right to vary the flow of the stream to meet the requirements of power generation is included in plaintiffs' assertion of adverse use. This phase of the case is affected by the fact, strange as it may be, that at the hearing, plaintiffs, despite their pleading, really took the position that their operations on the creek produced no more fluctuations than would occur under natural conditions. Defendants, on the other hand, showed by many witnesses that since the advent of the power companies the operations of their plants had caused more numerous, more frequent and more irregular fluctuations in the flow of the stream than would have occurred naturally. It is obvious that plaintiffs could not hope to establish the right of fluctuation through an alleged invasion of the rights of

the defendants by putting in evidence that really it did not occur, and thus virtually disclaiming any right to fluctuate the flow of the stream adversely to defendants. The defendants claim that such invasion did occur, but not so as to give the right by adverse use to continue the same.

Mr. Poole, chief engineer of the companies, stated that variations in the stream from power operations were not very much greater, if any, than before the power plants were installed. [Tr. p. 127.] Also, that it is the aim of the companies to keep fluctuations due to power operations down to what they were substantially in the natural flow prior to the installation of the plants. [Tr. p. 127.]

Engineer Huber, testifying for the companies, stated that he had compared the variations of natural flow in the creek with variations resulting from power operations and found that such operations do not make a greater variation. [Tr. p. 330.]

Mr. Criddle, "Acting General Agent," in a letter to N. J. Cooley dated September 10, 1913, on the subject of "water supply of Bishop Creek," stated, "I hope before next season we may be able to work out some method by which the daily fluctuations can be corrected." [Tr. p. 2650.]

On the question whether power fluctuations have been greater than natural fluctuations, and whether the companies have been openly, notoriously, continuously, uninterruptedly, adversely and under claim of right

fluctuating the flow of the stream, the above evidence is both interesting and significant.

Coming from officers and agents of the companies, as sworn witnesses, it not only disproves their assertion of adverse fluctuations under claim of right, but clearly shows that the companies, prior to the suit, rather entertained the hope and purpose of correcting and preventing any such fluctuations caused by them.

In this situation the issue as to adverse use under claim of right as regards fluctuations disappears, and the only question is, do the companies cause the fluctuations in the flow of the stream, charged by defendants. If they did, they were guilty of actionable trespass on rights of the defendants, to prevent continuation of which the latter are entitled to injunctive relief. The evidence adduced by defendants shows:

Mr. Young, president of the association, who has been familiar with irrigation on Bishop Creek for many years, testified that fluctuations in stream flow had been occurring ever since the advent of the power plants; that they were particularly marked and noticeable in years of short supply; that during the years 1914-1917, which were known as wet years, such fluctuations, on account of the abundance of water, did not materially affect irrigation. [Tr. pp. 1170-71.]

We have seen that in 1913, a short-water year, fluctuations due to power operations became a serious trouble, leading to the message from Mr. Criddle to Mr. Cooley of the association, stating [Tr. p. 2650]:

"I hope before next season we may be able to work out some method by which the daily fluctuations can be corrected."

Mr. Shephard, the zanjero, described fluctuations in 1917-1920. According to his testimony they were not serious prior to 1919, when there was a better water supply, but in 1919 and 1920, which were short years, they were very detrimental to irrigation. As described by him, they were sharp, sudden and uncertain, causing the water supply to the farmers while in use to be cut off without notice or to overflow their ditches when the water was not expected. The supply, when affected by these marked variations, could not be efficiently used. The witness said [Tr. p. 2204]:

"Q. Was it your experience that these fluctuations would occur at any particular time?

A. No, they were liable to come at any time. You might go out in the morning and have a nice head of water, and fix things, and an hour afterwards you might have almost no head at all. Never can tell what they would have."

In other words, as plainly shown by the witness, power fluctuations were incompatible with proper distribution and use of water on the lands of the farmers. [Tr. pp. 2201-2205.]

Defendants' Exhibit "K" presents a study of power fluctuations in Bishop Creek based on actual measurements and observations in the seasons of 1919 and 1920 just below plant 6 and above all diversions.

Defendants' Exhibit "M" shows the results of observations of diurnal fluctuations on Owens River at

different points as compared with the observations on Bishop Creek concurrently made and covered by Defendants' Exhibit "K".

The difference manifested through this study between power and natural fluctuations is very marked and substantial. On the river the curve of fluctuation shows a uniform and gradual rise and fall, excepting slight variations caused by the operations of the turbine of a small power unit about one-half mile above the gaging station on the Owens River at Crooked Creek. On the other hand, the curve for Bishop Creek shows numerous, sharp, sudden and irregular serrations, which could only be ascribed to artificial interference with the flow of the stream.

4. *Interruptions of alleged adverse use.* The evidence shows that whenever the operations of the Hillside and power interests interfered with the supply of the farmers, steps were taken to protect their rights.

In 1892 a committee, composed of Horton, Rowan and Bourland, waited on S. P. MacKnight and shut his ditch down. [Tr. pp. 74, 2407 and 2471.]

Between 1891 and 1900, L. J. Horton shut down the gates of the Hillside Water Company ditches several times a year, excepting 1899. [Tr. p. 2477.]

In 1893 and 1904, whenever the farmers were short of water, they would shut down the gates of the South Hillside ditch and release water from the old Hillside reservoir. [Tr. pp. 378-80, 2448, 2471.]

During the period from 1897 to 1904, one Bourland was superintendent of the Hillside ranches, and he

treated the rights of the irrigators below as prior and paramount. When there was a shortage of water for the use of such irrigators he would have water released from the Hillside reservoir. [Tr. pp. 2451-2.]

On April 30, 1908, Messrs. Yaney and Cooley, acting in behalf of the farmers, closed the Hillside gates and employed a man to patrol the creek and keep such gates closed. [Tr. p. 2483.]

On May 1, 1908, L. C. McLaren, agent of the directors of the association, in company with one Keating, employed by the Hillside interests, went up to the old Hillside dam and released water for the use of the Hillside lands and the irrigators below. [Tr. p. 2493.]

Summary and Discussion.

The foregoing survey of events from the time of the MacKnight appropriation, in 1887, up to and including the season of 1918, has shown certain main facts as regards the effect on the water supply for irrigation of the advent of the new interests on Bishop Creek, of whom MacKnight was the forerunner, to-wit:

From 1887 to 1906 there apparently was but little interference with the defendants, or their predecessors, but when there was interference, the operations of the new comers were interrupted until the requirements of the farmers were met.

In 1906 an arrangement was made for storing and impounding "waste and surplus waters" of Bishop Creek for power operations, pursuant to a plan and policy under which, as the irrigators were assured by

power representatives, only water that otherwise would go to the river would be stored, and the farmers would have more water in the irrigating season and be better off.

In 1908, a short-water year, differences between the new and the old interests on the creek came to a head, and Mr. Chapelle, representing the former, appeared on the scene and, by acknowledging the prior rights of the latter interests and giving assurance that such rights would be respected, composed and adjusted the trouble.

In 1913 the water supply became very short, and conflict again arose on Bishop Creek, but again a representative of the new interests appeared to explain and give assurance to the farmers. His letter of March 7, 1913, to the association referred to the arrangement of 1906, under which the power companies should have the privilege of storing and impounding "waste and surplus waters" of Bishop Creek, and stating "that the company intends, not only to respect the rights of these water users, but to assist and co-operate with them in every reasonable way," etc. In the same season the companies, on demand of the farmers, released from storage water required for irrigation, and control of the Hillside supply was placed in charge of agents of the association to be handled in subordination to the requirements of the users below. This arrangement made in 1913 lasted until the latter part of the season 1918.

The companies did not in 1906 or 1908 or 1913, or at any time prior to 1919, assert or claim any rights in the stream adverse, hostile or prior to the rights of the irrigators. Neither Mr. Chapelle, the big man of the company, nor attorney Potter, nor the officers or agents of the companies, in any of the numerous conferences with the farmers, assert that the companies had the right to store, release or take water when needed by the farmers. The claim of the companies to title by adverse use was first heard of in 1919. Prior to that time the attitude of the companies invariably was that of admitted subjection to the prior rights and interests of the farmers in the creek.

As we have seen, the farmers, by direct action, repeatedly, from time to time during the period from 1887 down to 1919, interrupted the use of the companies, but in the face of such drastic assertion of rights the companies never, prior to 1919, asserted any claim or right in the stream prior or superior to the rights of the farmers.

The proposition that the plaintiff companies for five years, or ten years, or any period of time prior to the commencement of this action, openly, notoriously, continuously, uninterruptedly and adversely to the irrigators below, and under a claim of right, stored, released, diverted and used the waters of the creek to suit power operations or irrigate Hillside lands, is entirely unfounded.

We have heretofore called attention to the rule laid down in Ball v. Kehl, 95 Cal. 606, holding that "the

burden of proof is upon the person in possession and claiming against the holder of the legal title to show that his occupancy is hostile and not subordinate to the legal title. He must prove all the essential elements of adverse possession."

We have also quoted from American Co. v. Bradford, 27 Cal. 360, declaring, in reference to the burden of proof resting on the claimant of an adverse title, "if he leaves it doubtful whether the enjoyment was adverse, known to the owner and uninterrupted, it is not conclusive in his favor."

We submit, that plaintiffs have not met the requirements of the rules above declared, and consequently their plea of right or title by adverse use must be rejected.

We wish to note particularly the assertion of counsel, at page 140 of their brief, under the head of "Prescription":

"This possession and use of the waters of Bishop Creek has been, during the years 1914, 1915, 1916, 1917 and 1918, continuous, uninterrupted, exclusive, peaceable, open, notorious, adverse, under a claim of right and hostile to, and as an invasion of defendants' claims."

We take it that counsel, by this assertion, intended to indicate their purpose to place their case as to alleged adverse title particularly on the events of the five-year period immediately preceding 1919, and to keep away from the period 1906-13, during which the companies were developing their announced policy of

storing and impounding only the "waste and surplus waters" of Bishop Creek and were thereby impressing the people of the Bishop region with the belief that the operations of the companies on that stream would be friendly, and not hostile or adverse.

As regards the five-year period mentioned by counsel, water conditions on the creek during such period were accurately described by Mr. Young of the association, as follows [Tr. p. 1170]:

"Q. During that period, from 1913 to 1918, did the irrigators get the supply of water they required, and where there was a shortage was it turned down from the reservoirs of the company in pursuance of that arrangement, where word was carried to the company as to the quantity of water required, and they would release it?

A. Yes."

Plaintiffs' Exhibit "1-F" shows that the years 1914, 1915 and 1916 were above the average as regards stream flow; 1917 was practically normal, and 1918 was normal, excepting the months of May and August. During the years 1914 to 1916, inclusive, the irrigators had plenty of water, and any shortage experience by them in the years 1917 and 1918, as stated by Mr. Young and other witnesses, was met by curtailing the Hillside supply. In a word, the evidence in the case shows that the basis of alleged hostile title in plaintiffs, to-wit, open, notorious, uninterrupted and adverse use under color of right, did not exist during the five-year period, namely, 1914 to 1918, specially relied on by plaintiffs.

In Anaheim W. Co. v. Semi-Tropic W. Co., *supra*, it is declared:

> "In order to establish a right by prescription, the acts by which it is sought to establish it must operate as an invasion of the right of the party against whom it is set up. The enjoyment relied upon must be of such a character as to afford ground for an action by the other party. This is thoroughly settled."

Wiel, on Water Rights, section 588, says:

> "The use must 'substantially interfere' with the property of the owner; there must be an actual invasion of his property. There must have been such a use of the water, and such damage, as would raise a presumption that complainant would not have submitted to it unless the respondents had acquired the right to so use it. The burden is on the adverse claimant to show such invasion."

Union Mill & Mining Co. v. Dangberg, 81 Fed. 73, 91, says:

> "The burden of proving an adverse uninterrupted use of water, with the knowledge and acquiescence of the party having a prior right, is cast on the party claiming it. American Co. v. Bradford, 27 Cal. 360; Gould, Waters, Sec. 341, and authorities there cited. Any person may obtain exclusive rights to water flowing in a stream or river by grant or prescription as against either riparian owners on the stream or the prior appropriation of the water by other parties. But the right acquired by prescription is only commensurate with the right enjoyed. The extent of the enjoyment measures the right."

Also,

> "* * * nor can this right be acquired if, during the time in which such right is claimed to

have accrued, there has been an abundant supply of water in the stream or river for all other claimants."

When we think of the apparently fair, friendly and deferential attitude assumed by the Hillside and power interests toward the vested and prior rights of irrigation on Bishop Creek during the period when those interests were seeking to gain a foothold and to establish their projects on that stream, and of the neighborly treatment accorded by the farmers to the representatives of those interests during that period, we cannot but regard plaintiffs' plea of adverse title in this case as partaking of the nature of fraudulent imposition, which is never rewarded in a court of equity.

III.

Water Rights of Defendants Dixon, Swall, Gillespie, Powers and Watterson Brothers.

1. Defendant Dixon has 40 acres, of which 10 acres are irrigated from the Owens River Canal, and the other 30 acres, ever since 1887 and prior thereto, have been continuously irrigated from Bishop Creek. The water from the creek reaches this land across the land of defendant Gillespie, containing 80 acres, and part of the original Horton ranch of 160 acres. Formerly, the water was conveyed to Dixon's land through a ditch, but owing to rising water table and tramping of stock the outlines of the ditch disappeared [Tr. p.

1468], but the supply has been coming continuously over the same ground. Dixon acquired a one-fifteenth interest in the old Horton appropriation. [Tr. p. 1469.]

In view of the fact that the water right of defendant Dixon has all of the elements of a legal appropriation initiated prior to the rights of plaintiffs and maintained continuously to the present time, there is no ground for questioning the existence or priority of such right.

2. Defendants Swall and Gillespie each own 80 acres of the old Horton 160-acre place, and each has a water supply from the creek based on an appropriation made by said Horton long prior to 1887, and which has been maintained by actual and continuous diversion and use on the lands now owned by them, to the present day. The priority of these water rights is stipulated by counsel for plaintiffs [Tr. pp. 1430 and 1444] subject to the reservation that the arbitrator shall determine the legal bearing thereon of the fact that in 1905 said Horton made a deed to the town of Bishop, purporting to convey 50 inches of his original appropriation from Bishop Creek and that by mesne conveyances such right has passed to intervenor, Harvey Adams.

There is no evidence of the exercise or use of the purported 50-inch right between 1905 and 1917 when it passed to said Adams. In the cases of Swall and Gillespie we urge, as in the case of Dixon, that, de-

spite the giving and effect of said deed by Horton, they have the benefit of an ancient appropriation which has been continuously maintained by actual diversion and use as provided by law.

3. The total acreage irrigated from Bishop Creek under rights by appropriation initiated in 1887 or earlier, amounting to the equivalent of 8,570 acres, includes 60 acres owned by defendant E. W. Powers and 156 acres owned by defendant Watterson Bros., Inc. These holdings are and have been irrigated through the so-called "Powers Ditch," which heads between power plants 5 and 6 on Bishop Creek. This ditch is 2½ miles long and has a capacity of about 800 miner's inches. In 1886 Powers posted and recorded a notice of appropriation of 500 inches of water in Bishop Creek. [Tr. p. 2134.] He owned at that time 640 acres of land which he had taken up under a desert entry. Of these lands Powers still owns 80 acres, 400 acres are owned by Watterson Bros., and 160 acres by the Hillside Water Company, grantee of certain parties to whom Powers sold the same. [Tr. pp. 2130-1.]

Powers commenced the construction of his ditch prior to his appropriation, to-wit, in 1885. [Tr. p. 2131.] He completed the ditch in 1887. [Tr. p. 2132.] He diverted that year onto his land through the ditch from the creek between 700 and 800 inches of water. [Tr. p. 2135.] This ditch formerly diverted directly from the creek. Subsequently the power companies,

to suit their own plans and without obtaining leave from the parties interested in the ditch, changed the heading so that the ditch would take its supply from the pressure line of Power Plant 6. [Tr. p. 2133.]

Of the 80 acres still owned by Powers, 60 acres are under irrigation through his ditch from Bishop Creek. Of the 400 acres owned by Watterson Bros., 156 acres are under irrigation from the creek through that ditch.

The Powers ditch has never been enlarged since its original construction. [Tr. p. 2187.] Measurements of flow in the ditch (referred to at pages 68-70 of plaintiffs' opening brief) showed an average of 12.7 second feet in July and 7.7 second feet for August, 1919, and an average of 7.6 second feet for May, 8.6 second feet for June, 8.5 second feet for July, 7.8 second feet for August, and 5.6 second feet for September, 1920.

We contend that the rights of defendant Powers for the irrigation of his 60 acres, and of defendant Watterson Bros. for the irrigation of their 156 acres from Bishop Creek, are, so far as plaintiffs are concerned, not affected by the so-called exchange agreement between the users from the Powers ditch and the Bishop Creek Water Association, originally made in 1904 and renewed in 1913. The Powers diversion from Bishop Creek through the Powers ditch, for the irrigation of his 60 acres, and the 156 acres of Watterson Bros., is legalized and sustained by an actual appropriation made by him in the manner prescribed by law, and it dates from 1886. Plaintiff companies

never had any arrangement with the users of the Powers ditch that the diversion from the creek, by means of that ditch, should be, to any extent, by way of exchange for water to be delivered from the Owens River Canal into the creek, or any arrangement or understanding with the users from the Powers ditch that their diversion of water from the creek should be, in any manner or upon any basis, other than in pursuance of the original Powers appropriation of 1886. That appropriation was a valid right for 17 years prior to the original so-called exchange agreement with the Bishop Creek Water Association, and that association never represented, or purported to represent, any of the plaintiff companies or any person or interest preceding them.

In 1912 [Tr. p. 2623] the power companies, on their own motion, and clearly in recognition of the rights of the users from the Powers ditch, connected up the pressure line between plants 5 and 6 and that ditch so as to enable the companies to divert the waters of the creek above the ditch heading. Later, in 1913 [Tr. p. 2796], the valve on the pressure line for discharging water into the ditch was made larger by the companies.

W. W. Watterson, of Watterson Bros., Inc., testified [Tr. pp. 2621-2]:

"Q. You remember the installation of the first valve, or first connection made, connecting up the ditch with the pipe? You remember about that?

A. Yes, I know about that.

Q. As appears here, that was done by the company itself. Do you remember also the circumstance of the installation by the company of a larger valve, to allow a larger delivery from Bishop Creek?

A. Yes.

Q. Did you have anything to do with that?

A. The first valve installed was not large enough to deliver the amount of water that the owners of the ditch were entitled to, and complaint was made to the company, and they afterwards removed that one and put in a larger valve.

Q. Do you understand that the first valve was installed without consulting the irrigators, or owners of land, and the company, upon complaint being made, installed a larger one?

A. Yes. We were the owners of that property at that time, but we were agents for people who had a right in that ditch at that time. Our bank represented the absent property owner at that time.

Q. Was that change of valve done with reference at all to any exchange of water, or arrangement for the exchange of water?

A. No."

Plaintiffs provided for the Powers ditch appropriation, not in deference to the exchange agreement, with which they had no connection or concern, but only because plaintiffs, upon their advent on the creek, found that ditch in operation delivering water from the creek onto the lands of the users from the ditch. So far as the evidence shows, the valves for discharging water from the creek into the ditch were installed by the companies unconditionally, and their recognition of the existence and priority of the rights in the creek of the ditch users was unqualified.

According to the evidence, the users of creek water through the Powers ditch received their supply at times of surplus flow without reference to any exchange and without intervention or interference on the part of the association. [Tr. pp. 2503-4; 2523; 2620.]

The lands of Powers and Watterson Bros. are located in a section lying separate and apart from the main area under Bishop Creek. Moreover, these lands are composed of soil exhibiting maximum porosity and coarseness, and while, according to the evidence of Mr. Clausen and Mr. Shuey, the average duty of water in Zone 1 is 7 acre feet, the lands of Powers and Watterson reasonably and fairly are entitled to the maximum allowance in Zone 1 of the Shuey classification.

Finally, regarding the irrigation of the 216 acres of Powers and Watterson Bros., the daily mean flow through the Powers ditch for these lands, as observed and recorded by witness McCarthy, covering the irrigation season of 1920 [Tr. p. 2184], was 6.9 second feet. This meant a usage for six months of 11.5 acre feet, and there is no evidence or claim of any waste or run-off.

IV.

Riparian Rights of Defendants Are Not Affected by the Alleged Adverse Use of Plaintiffs, Beyond the Right to Divert, Store and Release for Power Operations, the Surplus and Waste Waters of the Creek.

Riparian rights on Bishop Creek pertain to 4,078.1 acres, and the question arises whether plaintiffs have acquired title by prescription or adverse use superior to such rights. Reference to a few of the authorities regarding the law of riparian rights in this state would seem to be appropriate at this time.

In Shurtleff v. Kehrer, 163 Cal. 26, 26, the court says:

> "Water flowing in a stream is real property. (Stanislaus W. Co. v. Backman, 152 Cal. 726 (15 L. R. A. (N. S.) 359, 93 Pac. 858).) It is parcel of the riparian land, inseparably annexed to it. (Lux v. Haggin, 69 Cal. 391 (4 Pac. 919, 10 Pac. 674); Hargrave v. Cook, 108 Cal. 77 (30 L. R. A. 390, 41 Pac. 18).) The diversion of water of the stream is an injury to the freehold of the riparian owner and may be enjoined without a showing of other monetary damages. (Anaheim U. W. Co. v. Fuller, 150 Cal. 333 (11 L. R. A. (N. S.) 1062, 88 Pac. 978), and cases there cited.)"

In Miller & Lux v. Madera Canal etc. Co., 155 Cal. 59, plaintiff, as riparian owner along the lower Fresno River, sought to enjoin the defendant canal company from diverting the flood waters thereof for storage

in reservoirs. The canal company is the owner of a system of ditches for lands in the vicinity of Madera, and planned to store the flood waters of May and early June in the river for use later in the season. The company claimed that the waters which it intended to divert and store could not be considered part of the natural flow to which the riparian owners were entitled, and that the use of the flood waters by the plaintiff was too wasteful and unreasonable to be tolerated. The court says:

> "What the riparian proprietor is entitled to as against non-riparian takers is the ordinary and usual flow of the stream. There is no good reason for saying that the greatly increased flow following the annually recurring fall of rain and melting of snow in the region about the head of the stream is any less usual or ordinary than the much diminished flow which comes after the rains and the melted snows have run off.
>
> "The doctrine that a riparian owner is limited to a reasonable use of the water applies only as between different riparian proprietors. As against an appropriator who seeks to divert water to non-riparian lands, the riparian owner is entitled to restrain any diversion which will deprive him of the customary flow of water which is or may be beneficial to his land. He is not limited by any measure of reasonableness."

In the last named case it was suggested to the court that a different rule should apply in a semi-arid climate like that of California, where the fall of rain and snow occurs during only a limited period of the year, and, consequently, streams carry in some months a

flow of water greatly exceeding that flowing during the dry seasons.

On this point the court declared:

> "But no authority has been cited, and we see no sufficient ground in principle, for holding that the rights of riparian proprietors should be limited to the body of water which flows in the stream at the period of greatest scarcity. What the riparian proprietor is entitled to as against non-riparian takers is the ordinary and usual flow of the stream. There is no good reason for saying that the greatly increased flow following the annually recurring fall of rain and melting of snow in the region about the head of the stream is any less usual or ordinary than the much diminished flow which comes after the rains and the melted snows have run off."

Miller v. Bay Cities Water Co., 157 Cal. 256, supports the rule laid down in the last named case.

In Heilbron v. Canal Co., 75 Cal. 431, the court says:

> "The right claimed by the defendant is not to appropriate the surplus waters of extraordinary floods, when the flow is more destructive than useful. It claims as an appropriator a certain quantity of water, adversely to the riparian proprietor; and if the claim be valid, it may be asserted at any stage of the water. But the rights of the riparian proprietor do not depend upon the quantity of water flowing in the stream. Nor can that flow be said to be an extraordinary flood which can be counted upon as certain to occur annually, and to continue for months."

In Gallatin v. Corning Irr. Co., 163 Cal. 405, the court, after referring to the rule laid down in certain

earlier decisions permitting flood waters to be taken for non-riparian uses at times when the flood is so great that the water diverted could not be used by the riparian owner, and the diversion would cause no injury to him or his land, and would greatly benefit the appropriator, says:

> "This rule does not conflict with the decisions in the Bay Cities and Miller & Lux cases first above cited. In those cases the water, in question, although in a sense high water, or flood water, was nevertheless a part of the regular and usual flow of the stream for a considerable part of each year and at a time when such flow was of substantial use and benefit to the riparian lands, or the flow of such waters in their accustomed place was necessary to the gathering of water in subterranean strata from which the owners of overlying land were entitled to take it."

The ninety second foot regulation, during the irrigating season, which plaintiffs claim to have fastened on the Bishop Creek users by prescription, is a myth. Such a restricted flow was never imposed on such users by plaintiffs under claim of right or for the statutory period or at all, except possibly for a few moments at a time, within the limits of two or three months at scattering intervals when the run-off was abnormally low.

Plaintiffs claim that, by prescription or adverse use, they have acquired the right to so handle Bishop Creek, through storage, in connection with power operations, and in connection with diversions for the Hillside lands, as to give users outside of the Hillside

lands only 90 second feet of water during the irrigating season. It is obvious that, in order to substantiate such claim, plaintiffs were required to prove that they, for at least five consecutive years prior to the commencement of this suit, openly, notoriously, continuously, uninterruptedly and under claim of title so used the waters of the creek for their purposes as to make available for the benefit of the users below only 90 second feet of water during the irrigating season. Plaintiffs' own testimony (Plffs.' Ex. 1-F) completely disproves this claim. It shows that the average flow of the creek during the irrigating season, available for the irrigators, including the usage on the Hillside lands, which plaintiffs claim is 10 second feet, for the years 1908 to 1918, inclusive, was as follows:

1908.....	122	second	feet
1909.....	201	"	"
1910.....	152	"	"
1911.....	205	"	"
1912.....	120	"	"
1913.....	96	"	"
1914.....	180	"	"
1915.....	160	"	"
1916.....	183	"	"
1917.....	135	"	"
1918.....	114	"	"

These figures show that the average flow, during the irrigating season, for the period 1908 to 1918, inclusive, was 152 second feet; for the five-year period 1914 to 1918, inclusive, was 154 second feet; for the

five-year period 1913 to 1917, inclusive, was 151 second feet; for the five-year period 1912 to 1916, inclusive, was 148 second feet; for the five-year period 1911 to 1915, inclusive, was 152 second feet; for the five-year period 1910 to 1914, inclusive, was 151 second feet; for the five-year period 1909 to 1913, inclusive, was 155 second feet; and for the five-year period 1908 to 1912, inclusive, was 160 second feet.

Even if the 10 second feet claimed for the Hillside lands is proper, that would not reduce the amount for the users below to anything like 90 second feet for the irrigating season, to which plaintiffs claim they have brought the rights of such users by actual adverse use for the statutory period of five years. Moreover, according to the evidence, whenever the flow of the stream, during the period 1908 to 1918, has fallen below the requirements of the users of Bishop Creek other than the Hillside lands, the use of water on the Hillside lands has been interrupted.

In this connection, we wish to add that the evidence, as examined, and detailed in another part of this brief, shows, without conflict, that the supply of water from the creek for the Hillside lands has always been subject to the requirements of the users below.

We have examined elsewhere, in connection with defendants' rights by appropriation, the evidence regarding plaintiffs' alleged title by adverse use, and it clearly appeared therefrom that, until the year 1919, and shortly before the commencement of this suit, plaintiffs never claimed the right to store the waters

of the creek, excepting the surplus and waste waters thereof. They never for five consecutive years prior to this suit exercised, under claim of title, or otherwise, such right. Plaintiffs did store something more than the surplus and waste waters of the creek in a portion of 1912, a portion of 1913, a portion of 1917, and a portion of 1918. They did not do this in 1914, 1915, or 1916. They did store something more than the surplus and waste waters in 1908, but not in 1909, 1910, or 1911.

Plaintiffs, therefore, may not assert title by prescription to the right to store any but the surplus and waste waters of the stream.

V.

Defendants Are Not Estopped.

Plaintiffs, in their "further and separate answer and defense to the cross-bills" (pp. 59-69), assert that the defendants are barred by their laches from maintaining such cross-bill, and are estopped to deny the right of plaintiffs to impound the waters of Bishop Creek during the period of high flow each year so as to fill the enlarged Hillside reservoir and Sabrina reservoir, and to release such stored waters as may be required for the operation of the power plants of the plaintiff companies on that stream, subject only to the limitation that the flow of the stream available for the use of defendants shall not be reduced below a daily average of 90 second feet; or to deny the right of

plaintiffs to fluctuate the discharge of the waters of the creek through such plants as may be required in their operation.

The grounds upon which it is claimed that defendants are so estopped are, that they stood by and, without objection or protest, acquiesced in the construction of the two reservoirs mentioned, and of the electric works of the plaintiff power companies, for generating electric energy from the waters of the creek and transmitting the same to various communities in this state, and in Nevada, for distribution for domestic use, pumping for the irrigation of land, and other purposes; that such works cost many millions of dollars and have become an important utility in meeting the power requirements of the sections reached by their lines; that defendants, and their predecessors in interest, knew that the storing of water from the creek in such reservoirs and the consequent equalizing of the stream so as to provide uniform service, were necessary in connection with the establishment and operation of such power systems; and that defendants by their silence gave tacit approval and assent to the construction and operation of such reservoirs for the purposes described.

Reference to pertinent authorities will be an advantage, at this point. Estoppel has been defined as "a preclusion in law which prevents a man alleging or denying a fact in consequence of his own previous act, allegation, or denial of a contrary tenor." Coogler v. Rogers, 25 Fla. 853, 873.

Boggs v. Merced Mining Co., 14 Cal. 279, in which the opinion of the court was written by Field, C. J., cites and quotes with approval Commonwealth v. Moltz, 10 Barr 531, in which the Supreme Court of Pennsylvania, after citing several cases in which the doctrine of equitable estoppel was applied, said:

> "In all these cases there is some ingredient which would make it a fraud in a party to insist on his legal rights."

Also:

> "To the constitution of this species of estoppel at least three ingredients seem to be necessary: first, misrepresentation, or wilful silence by one having knowledge of the fact; second, that the actor having no means of information, was, by the conduct of the other, induced to do what otherwise he would not have done, and, thirdly, that injury would ensue from a permission to allege the truth. *And these three things must appear affirmatively.*"

Lux v. Haggin, 69 Cal. 255, 266, in a discussion of the subject of estoppel *in pais*, which includes all forms of estoppel not arising from a record, from a deed, or from a written contract, says:

> "There are estoppels *in pais*, as where a defendant is induced to act by the declarations or conduct of a plaintiff,—which are a defense both at law and equity. Here we cannot discover the elements of such an estoppel. The defendant has acted with full knowledge of all the facts, and, as must be presumed, with full knowledge of the law controlling the rights of the parties. To constitute the estoppel the party claiming the benefit of it must be destitute of knowledge of his own

legal rights and of the means of acquiring such knowledge."

Also:

"To constitute such an estoppel it must also be shown that the person sought to be estopped has made an admission or done an act, *with the intention* of influencing the conduct of another, or that he had reason to believe would influence his conduct, inconsistent with the evidence he proposes to give or the title he proposes to set up; that the other party has acted upon or been influenced by such act or declaration; that the party so influenced will be prejudiced by allowing the truth of the admission to be disproved."

In the Lux case, the fact relied on as proving the alleged estoppel was that plaintiffs had knowledge of the construction of expensive canals and other works of defendant, while they were in progress, and did not object to them. The court, however, holds, "the bare fact that ditches, etc., were constructed with the knowledge of the plaintiffs, though at great expense, without objection by plaintiff, is not sufficient to constitute (such) an estoppel."

Murphy v. Clayton, 113 Cal. 153, 160, which cites with approval Boggs v. Merced, etc., Co., *supra*, and Lux v. Haggin, *supra*, regarding estoppel through conduct, says:

"To constitute such an estoppel it must also be shown that the person sought to be estopped has made an admission or done an act, *with the intention* of influencing the conduct of another, or

> that he had reason to believe would influence his conduct, inconsistent with the evidence he proposes to give, or the title he proposes to set up; that the other party has acted upon or been influenced by such act or declaration; that the party so influenced will be prejudiced by allowing the truth of the admission to be disapproved."
>
> "For the application of the doctrine of equitable estoppel there must generally be some intended deception in the conduct or declaration of the party to be estopped, or such gross negligence on his part as to amount to constructive fraud, by which another has been misled to his injury."
>
> Brant v. Iron Co., 93 U. S. 335, 23 L. Ed. 927.

Smyth v. Neal, 49 Pac. (Ore.) 850, was a suit to restrain the defendant from diverting water from a stream at a point thereon above the land of plaintiff, a prior appropriator. One of the questions transmitted was whether plaintiff was estopped to question any appropriation the defendant may have acquired. The court held that plaintiff, by making favorable representations to the defendant of the desirability of his neighborhood for settlement, and by discussing methods of irrigation, and stating that he thought the supply of water from the creek was sufficient for them both, was not estopped to claim a superior right to so much of the water as prior and during all such time he had been using for beneficial purposes to the knowledge of the defendant. The court in its discussion cites with approval Boggs v. Merced etc. Co., *supra*, and Lux v. Haggin, *supra*, and in the course of its discussion says:

> "These elements must concur, to constitute the estoppel for which defendant contends, viz.: He

> must have been destitute of knowledge of his own legal rights, and of the means of acquiring such knowledge. The plaintiff must have made some admission or done some act with the inention of influencing the conduct of the defendant, or which he had reason to believe or the necessary tendency of which would be to so influence him, inconsistent with the assertion of title in himself; that the defendant has acted upon or been influenced by such demeanor; and that he will now be prejudiced by allowing the effect of such acts or admissions to be controverted."

Lower Latham Ditch Co. v. Louden Irr. C. Co., 60 Pac. (Colo., 1900) 629, was a suit to compel defendant to recognize the decreed priority of plaintiff to the waters of the South Platte River. The court held that the fact that plaintiff knew for several years that his shortage in water supply was caused by diversion of the waters of the stream by defendant's ditch, and made no protest, did not show any laches or acquiescence on his part amounting to an abandonment of his decreed priority. The court says:

> "The evidence may establish that from July, 1890, down to the date when this suit was instituted, plaintiff may have been short of water, which it knew was caused by the diversion of defendant companies' ditches from the Big Thompson. No protest against this action was made. The supply of water in the streams of this state is variable. In times of low water in a stream, or its tributaries, which is the common source of supply for many ditches, some will be unable to obtain their full share. If a failure of one diverting water from a stream to protest every time a shortage in his supply is occasioned by another

withdrawing water to which he is not entitled is to be construed as laches or acquiescence amounting to an abandonment, priorities as determined under the statutes would be of little value."

Further:

"There is nothing in the evidence from which to infer that its silence was prompted by an intention to deceive the defendant companies with respect to their rights, nor was its action in this respect negligence to such a degree as to amount to constructive fraud."

And then:

"* * * It must appear that the party against whom such estoppel is sought to be established was apprised of the true state of his own title; that by such conduct he intended to deceive, or thereby was guilty of such negligence as to amount to a fraud; that the other was not only destitute of all knowledge regarding the true state of his title, but of the means of acquiring such knowledge. There must be some degree of turpitude in the conduct of a party, before a court of equity will estop him from the assertion of his title, when the effect of the estoppel is to forfeit his property, and transfer its enjoyment to another." Citing Boggs v. Mining Co., *supra*, and other authorities.

Now, as to the burden of proof under the plea of estoppel:

"While it is true that one who, having a right, induces another to act on the belief that the right will not be asserted, will not be afterwards allowed to exercise it, and while it is also true that one may estop himself by acquiescence or by silence when he ought to speak, nevertheless it is

> true that the burden is upon the party who relies on the estoppel, to prove clearly and unequivocally every fact essential to the estoppel."
>
> Kroll v. Close, 82 Ohio St. 190, 92 N. E. 28, 29, 28 L. R. A. (N. S.) 571.

Since, then, plaintiffs had the burden of proving "clearly and unequivocally every fact essential to the estoppel," we wish, at this point, to determine what such essential facts are, and whether plaintiffs have established the same as required by the rule. Having now in mind the three ingredients necessary to constitute the alleged estoppel, plaintiffs were required to show, first, misrepresentation or wilful silence on the part of the defendants, with knowledge that plaintiffs were proposing to construct and operate such storage and electrical works on Bishop Creek as would substantially invade the rights of such defendants in that stream; second, that plaintiffs, being ignorant and having no means of information, were, by the conduct of defendants, induced to build such works on the creek, which they would not have done had defendants spoken up, calling attention to the threatened invasion and asserting their rights; and third, that defendants have remained silent when, in good conscience, they should have spoken, will not now be permitted to allege the truth as to their rights, to the injury of plaintiffs.

Plaintiffs, in their answer to the cross-bills, make very full and specific allegations to show estoppel of defendants, but we have searched the record in vain for evidence to sustain this charge, and a careful ex-

amination of their counsel's brief discloses no specification of any such evidence.

As we have seen, the law requires that the facts to establish estoppel "must appear affirmatively." In this case they do not appear at all. Misrepresentation or wilful silence is not proven. Inducement of plaintiffs to do what otherwise they would not have done is not proven. Admission or act by defendants with the intention of influencing, or which they had reason to believe would have the effect of influencing, the conduct of plaintiffs inconsistent with the rights asserted by defendants, is not proven.

In a word, plaintiffs have utterly failed to sustain the burden assumed by them in this case, "to prove clearly and unequivocally every fact essential to the estoppel." (Kroll v. Close, *supra.*)

What we have said above concerning estoppel as affecting plaintiffs and defendants, we intend should be applied also to their respective predecessors in interest.

Our discussion of the events from 1887 to 1918, as bearing on plaintiffs' claim of adverse title, might appropriately be repeated here to refute their plea of estoppel, but to avoid unduly prolonging this brief, we will, instead of going over the same ground for the purposes of the immediate point, refer the arbitrator to such discussion in connection with that plea.

VI.

Duty of Water.

Plaintiffs' Case.

Plaintiffs, consisting of one irrigation company and two power companies, all under one control, have undertaken to show that the use of water from Bishop Creek by the defendants is excessive and wasteful, and that under a more economical method of handling their supply there would be sufficient surplus in the stream for the purposes of plaintiffs. Hence we have the issue as to the duty of water on the Bishop Creek area.

In Hough v. Porter, 98 Pac. (Or.) 1083, 1101, it is stated:

> "In determining the 'duty of water', or quantity essential to the irrigation of any given tract of land, we must take into consideration the character, the climatic conditions, the location and altitude of the lands to be irrigated, and necessary manner of irrigation."

There are special reasons, as we view the evidence in this case, for observing the foregoing rule in studying irrigation on Bishop Creek, where every natural condition involves peculiar difficulties and enforces the maximum use of water. In the area irrigated from that stream we have heavy gradients varying from 50 to 100 feet to the mile; granitic soils of marked porosity, with coarse open material interspersed with

gravel and boulders in the upper section, and deposits of decreasing coarseness as the slope of the delta cone is descended; little or no rainfall during the irrigating season; and heavy evaporation, such as is usually experienced in semi-arid regions.

(a) *Plaintiffs rely on inferior evidence.*

The Hillside Company, like the defendants, is engaged in irrigation from Bishop Creek. It has been engaged in that business for more than thirty years. It has several hundred acres of fertile land in the upper part of the territory supplied from that stream, and has been producing crops on its lands similar to those produced elsewhere in that territory. It has ditches and head-gates and all the appliances of an irrigation system, and has been in a position to provide the best and most improved methods of handling its water supply. Moreover, being under the same control as the power companies, we should expect it to show the same efficiency in handling its irrigation operations as is claimed for those companies in handling their power operations. It has had the opportunity to learn, both from its own experience and from the experience of the water users below, how irrigation on Bishop Creek should be practiced to produce the best results with a minimum allowance of water. If defendant Trickey, or defendant Rowan, or defendant Yandell, or any other defendant, could have produced larger and better crops with less water if prop-

erly and economically applied, plaintiffs must be presumed to be familiar with that fact.

Since the Hillside Company has long been engaged in irrigation on Bishop Creek, and since it and the other plaintiffs charge that defendants could produce better results with less water than they have been producing, if only they would employ more efficient methods of irrigation, then we had a right to anticipate that plaintiffs, on the question of the duty of water, would rely, mainly at least, on the experience of the Hillside Company for proof of the charge of wastefulness. Has such proof been forthcoming? Has the Hillside Company, as a practical irrigator on Bishop Creek, presented facts based on actual irrigation operations on its own lands to establish what it claims the defendants could and should be required to do on their lands under that creek? We wish to point out that plaintiffs, despite their insistence that the irrigation methods of defendants are antiquated and wasteful, did not present the slightest evidence from actual experience on the Hillside lands in support of their claim.

Plaintiffs, instead of calling the farmers and zanjeros on the Hillside lands to testify as to the quantity of water required to produce crops on those lands, and thus make a practical basis of comparison for determining the water requirements of other lands under Bishop Creek, called, on this point, two engineers from San Francisco to give mere opinion evidence as experts. In such a case, as stated in No. Cal. Power

Co. v. Waller, 174 Cal. 377, 386, "there comes into necessary application the declared presumption of our law (Code Civ. Proc., Sec. 1963, Subd. 6) that 'higher evidence would be adverse from inferior evidence being produced'."

Since, then, plaintiffs, on the question of the duty of water on the Bishop Creek area, saw fit to pit opinion evidence against farmers' evidence, or, to put it another way, to oppose theory against practice, we wish, at this point, to call attention to certain phases of the testimony of their experts.

(b) *Expert testimony for plaintiffs.*

Mr. Means, called by plaintiffs as a soil and irrigation expert, gave as his opinion that by reconstructing and improving the Bishop Creek irrigation system and properly preparing the lands for the application of water, and by the elimination of waste, a total gross or head duty of 2.82 acre feet would be proper and reasonable for the irrigation of defendants' lands.

In order to get at the witness' point of view and basis of conclusion, we would call attention to the following statements in his testimony.

He spent a total of six to eight days, in 1919 and 1920, in making a general survey and investigation of the area involved in this suit, and the results thereof are embodied in his report filed as Plaintiffs' Exhibit 86 in this case. [Tr. pp. 218 and 260.]

He found the land poorly prepared for the economic application of water; saw less than five acres in the

whole valley properly prepared; saw only one man irrigating, on his first trip in August, 1919. [Tr. p. 220.]

He saw evidence of considerable waste, and a run-down condition of the irrigating system generally; found head gates and boxes leaky, no ditches lined with concrete, nothing but wooden structures. [Tr. pp. 222-223.]

He concluded that a better preparation of the land and the use of a proper quantity of water would result in better, larger and more certain crops. [Tr. p. 226.]

He states that, in addition to waste through surface run-off, there was considerable loss by deep percolation; that the soil on the upper area will retain two-thirds of an inch of water, and on the lower area one inch of water, per foot of depth. [Tr. pp. 230-1.]

He stated that the ideal irrigation would have no waste, the object being to apply just enough water, just the quantity that the soil would absorb. [Tr. p. 231.]

He found certain conditions, namely, too much water on some places and at the time time a shortage of water on others, due to lack of system in the administration of the general supply. He found twenty-eight ditches of varying lengths diverting water from the creek, and multiplicity of waste resulting from running small quantities of water in gravel channels, and was of the opinion that the water could be better handled with one large ditch from which laterals extended. He was of the opinion that an irrigation sys-

tem might be developed which would save a great deal of water. [Tr. pp. 233-4.]

The witness concluded that 27,400 acre feet was sufficient, under economical use, for 11,400 acres, on the basis of 85% irrigated. [Tr. p. 235.]

It would appear from the witness' report (Pltffs' Ex. 86, p. 24) that the figure 27,400 feet is gross, and includes 8% per mile for channel losses.

He admitted that in concluding that waste had been committed in the use of water on the Bishop Creek area he had assumed that all water reaching that area had come directly or indirectly from that stream, and that, until called to his attention on cross-examination, he had overlooked and taken no note of the fact that the Bishop Creek and Owens River canals traversed that area for several miles and contributed considerably to the underground supply. [Tr. pp. 270-5.]

He admitted that the fact that drainage is necessary does not conclusively imply that waste has been committed, the witness saying, "because even with the most careful use drainage is often necessary or advisable." [Tr. pp. 270-275.]

He admitted that the methods of use of water on the Bishop Creek area were no different or worse than in other sections of the country which had not adopted modern and scientific practices in handling the water supply for irrigation. [Tr. p. 301.]

Although the witness had testified that with improved methods of handling water, such as had been adopted in some other district, larger and better crops

could be raised on the Bishop area, he stated on cross-examination [Tr. p. 304]:

"Q. Mr. Means, do you not consider that the crops that grow here, whether alfalfa or corn or grain or stock—if I may apply the term 'crop' to stock—or anything else they grow here, is up to the standard compared with the things produced in other regions?

A. Yes, I think so. I think this is the best corn region in California.

Q. And there is no better alfalfa grown elsewhere than here, is there?

A. Not that I know of.

Q. And everything they produce here is of a rather superior kind, is it not?

A. Yes.

Q. So that in quality the region is not twenty years behind the times?

A. No, the quality is good."

Also [Tr. p. 311]:

"Q. Do you know what the relative or comparative production of alfalfa per acre here is considered as against other regions?

A. No. I think it is high here, though.

Q. You say that they have three crops a season here and six elsewhere?

A. Six in the San Joaquin Valley.

Q. How do they compare in production per acre, tonnage?

A. I would think this country would produce as much with three cuttings as six there."

He testified that from the appearance of the place of defendant Lloyd Smith he was a good farmer, using short lands for running his water; that he took particular care of his water, watching it at night and got over his land quickly; that he saw practically no evi-

dence of run-off. His land could have been better leveled. [Tr. p. 2686.]

He, in support of the claim that the Bishop Creek farmers should be compelled to use more care and economy in handling their water supply, submitted the rules and regulations of the Corcoran Irrigation District, in Kings county. [Tr. p. 2694.]

He advocated the use of the border system in preparing the land for irrigation. [Tr. p. 2696.]

He urged reconstruction of the general irrigation system on Bishop Creek, including the installation of the check and border features, cutting out duplication of ditches, and rearranging the balance. [Tr. pp. 2710-11.]

He estimated that it would cost $20 an acre to put the irrigating system in perfect condition and properly prepare the land, and for the most economical use of water. [Tr. pp. 2710-12.]

Regarding Mr. Means' testimony, we wish to say, with all respect to him as a man and an engineer, that his opinion as an expert witness on conditions in the Bishop Creek area is not a sufficient, proper or safe basis for determining the question as to the amount of water the defendants reasonably are entitled to for their respective parcels of land. In the first place, such opinion is not backed or supported by actual experience or experiment in the region affected. He devoted some six or eight days to a very superficial investigation of that area, and while he appeared for people who had been conducting farming and irrigation

operations in that area for a great many years, neither he nor they brought forward any results from their experience to sustain the opinion he offered.

His views on the use of water in the Bishop Creek area are plainly theoretical and idealistic. He says there is great waste of water on that area through deep percolation and surface run-off, and that such waste could be avoided by the application, under proper conditions, of an average of 2.82 acre feet per acre during the irrigating season. In arriving at that figure, he multiplies the amount of water, for each irrigation, which the soil will absorb to the depth of plant root penetration in the different parts of the area, by the number of irrigations for the season. This gave him an average duty of 2.3 acre feet per acre, and, adding 8% per mile for channel losses, he arrived at a gross or head duty of 2.82 acre feet per acre.

Furthermore, such method takes little or no account of the heavy gradients and varying conditions of soil in the area supplied from Bishop Creek, thus subjecting his opinion evidence to the criticism that he makes no allowance for serious practical difficulties in handling water with which every farmer in that area is familiar.

Hence, we contend that Mr. Means' method of avoiding the waste of water charged against the defendants, so far at least as the direct application of the water to the soil is concerned, is obviously theoretical and

does not afford a reasonable and practicable standard for judging the rights of the parties in this case.

It will be noted that the only waste allowed or provided for by Mr. Means, in handling the water under the duty he assigns to the Bishop Creek area, is the 8% per mile in the carrying channels. He allows for no loss in the laterals or distributing ditches of the system. This means, of course, that, in order to make his duty of 2.82 acre feet sufficient, the entire system, with the exception of the carrying channels, must be reconstructed out of impervious material. Besides this, the witness' method of eliminating or limiting waste requires a precision of operation which would do away entirely with the farmer class in areas depending on artificial irrigation, and substitute for them a lot of scientists with all kinds of delicately adjusted instruments and appliances for measuring and distributing water.

While the Bishop Creek irrigation system has been built piece-meal, its various parts, as constructed, were related to the natural channels of the creek as main carriers from which the supply is distributed through the lateral ditches. Mr. Means, in his condemnation of the system as antiquated and excessively wasteful, urged that there are too many ditches and that, as a measure of economy, these should be consolidated. It should be kept in mind that the Bishop Creek area is comparatively narrow at right angles to the grade and, therefore, even under a reconstructed system, it undoubtedly would be found that the best location for trunk lines

would be the present north and south channels and China Slough. The laterals serving the various levels must branch from the main carriers in herringbone fashion to reach and properly serve the land, and this is practically the layout today. It is true that, as a result of independent individual activity and interest in handling the Bishop Creek supply, there are more ditches than would be necessary under an incorporated or consolidated plan, yet such rearrangement could not be depended upon to effect a substantial saving of water over the present system. Criticism should not be made of short laterals, since this condition is imposed by the location and topography of the general area.

An important and material condition entirely overlooked. The witness found a water-logged condition in parts of the Bishop Creek area, and he concluded that it was caused entirely by water from Bishop Creek, and that the defendants were largely responsible for such condition through excessive use of water from that stream. He admitted, on cross-examination, that he had overlooked the Bishop Creek and Owens River canals as contributing causes to such condition, but still he did not modify his conclusion.

Regarding those two canals, it should be pointed out that they traverse the Bishop Creek area for a combined distance of about six miles, and together they carry, during the irrigating season, an average of approximately 150 second feet of water. [Tr. p. 2426.] These canals also carry considerable quantities of

water during the rest of the year. The Owens River canal is located in the upper section of the area, where the soil is composed largely of very coarse and porous material. A very considerable quantity of water is taken from the Bishop Creek canal for use on a large acreage within such area lying easterly of the canal, and also on adjacent lands.

It will readily be seen that the presence and operation of these two large canals very greatly complicates the situation on the Bishop Creek area, both as regards causation of water-logged conditions and responsibility therefor, and the matter of drainage. The witness made no allowance for this complication. He looked at the lands surcharged with water, and at Bishop Creek, and at the defendants sued in this case and said that they were responsible; they were guilty of waste and excessive use of water from that creek; their supply should be cut down, and their rights should be limited.

Unjust and improper comparisons. The witness compared the Bishop area with lands under reclamation projects, irrigation districts, and incorporated canal systems in other parts of the country. The Bishop area is composed of more than 150 different independent holdings with as many independent water rights. There is no single or central authority invested with control over supply or distribution. It is true the users, without legal compulsion, co-operate in parceling out the water, but there is no incorporated

authority to operate, build, construct, reconstruct or improve the general irrigation system, or to receive and distribute the water, or to require the installation of checks, borders, impervious laterals or ditches, or other so-called improved methods of irrigation. Defendants, however, in maintaining and exercising separate and independent rights in the waters of Bishop Creek, are acting under the law, and may not be penalized for waste of water unavoidably incident to that situation.

The witness showed no proper or sufficient basis for applying to the Bishop area an opinion derived from observations on the Fresno area. The latter area includes thousands and tens of thousands of acres irrigated for crops entirely unknown to the Bishop area. Around Fresno are immense vineyards, requiring hardly more than a single irrigation a year, and then there are very large areas devoted to citrus and deciduous fruits. The Fresno region is also famous for its extensive output of figs. Water demands for these crops may not be compared with those of the Bishop area. In the latter area the alfalfa crop, a large consumer of water, predominates. Besides, owing to the fact that the community is largely devoted to stock raising requiring pasturage, there is a disproportionate use of water for that industry compared with the Fresno region.

On Bishop Creek the land falls from 50 to 100 feet to the mile, while the Fresno area, although not so flat

as Imperial Valley, Yuma Valley or Salt River Valley, has but slight gradients.

The witness, when asked for the basis of his comparison of the use of water in the two areas, stated, "As I say, I was using general figures, the total use as against the total use there." [Tr. p. 288.]

It is clear that under the opinion evidence of witness Means, the Bishop area is unjustly treated through unfounded comparisons with dissimilar conditions elsewhere.

One Smith, a good farmer. It will be remembered what the witness said about the ranch of defendant Lloyd Smith. He said its condition indicated that Smith was a good farmer, using short lands for running his water; that he took particular care of his water, watching it at night, and got over his land quickly; that witness saw no special evidence of run-off on his place. His land could have been better leveled. [Tr. pp. 2686-8.]

Smith, thus cited, singled out and praised as a good farmer, uses seven acre feet per acre of water on his place during the irrigating season. [Tr. pp. 2657-8.]

Mr. Huber, an engineer for the companies, and irrigation expert, was called as a witness by his employers. He really had a very difficult, if not impossible, role to fill in undertaking to give a just and unbiased opinion on vital issues between his employers and their antagonists. It may be said that he added little, if any, to the testimony of his associate, Mr.

Means. There was, of course, corroboration here and there and no material conflict in attitude or view between them, as sometimes happens where witnesses of the expert class are called on to give their opinions under oath. Mr. Means boldly stated that, in his opinion, a duty of 2.82 acre feet was proper and reasonable for the Bishop Creek lands. Mr. Huber, however, was somewhat more cautious and judicial in giving his figure on that point. He said, "It was from two to two and one-half, or possibly two and seven-tenths acre feet per acre." [Tr. p. 318.]

Mr. Huber gave other testimony, which we will briefly note so far as it appears material for the present purpose.

He acted as consulting engineer on different occasions for the State Bond Commission, in cases where the securities and water supplies of irrigation districts were under investigation, and he allowed an amount varying with the different districts, according to the differences in soil, from two acre feet up as high as three acre feet. [Tr. pp. 313-14, 319.]

He took a multitude of photographs on the Bishop Creek area to show alleged waste of water and primitive construction of ditches and other works on defendants' irrigation system. This work evidently required the witness to go to a great deal of trouble to maintain a judicial poise as an expert witness to aid the arbitrator to reach a just conclusion between the witness' employers and the farmer defendants. He evidently did a good deal of running up and down

the roads and jumping fences and watching the farmers in order to accumulate evidence which seemed to him material and important. He, of course, gave exhaustive study to the irrigation system for the Hillside lands and farming operations on those properties, with a result that is quite interesting. Did he tell us about the proper duty of water on those lands, or about the crops they raise, or about the care they exercise in handling their water supply? His entire testimony contatins no revelation on these points, but we do find him saying that a certain head-gate on the Hillside system is a better structure than generally found on the Bishop Creek system. [Tr. pp. 324-5.]

We wish to add, in line with what we have urged regarding the testimony of Mr. Means, that comparisons made by Mr. Huber between the Bishop area and other sections such as irrigation districts and other territory under incorporated water supplies, with gradients, soil conditions, and crops raised substantially dissimilar to those on the Bishop area, are of practically no value for the purpose of this case.

Defendants' Case.

Defendants produced three witnesses specifically on the question of the proper duty of water on the Bishop Creek area, namely, Messrs. Clausen, Shuey and Eaton, all civil engineers by profession and all familiar with the farming industry and irrigation in Owens Valley. Mr. Clausen, as an engineer in the employ of the U. S.

Reclamation Service, spent most of the years 1903 and 1904 in and about the town of Bishop, making irrigation investigations for that service, and he has visited that section every year since and kept in touch with its farming and irrigation activities. Messrs. Shuey and Eaton, besides being civil engineers of many years' practice, are practical farmers of long experience in Owens Valley and familiar with irrigation under Bishop Creek.

Mr. Clausen gave it as his opinion that a duty of 4.64 acre feet was proper and reasonable for lands supplied from Bishop Creek. [Tr. p. 2580.] The conclusion of Mr. Clausen was not merely his opinion as an expert engineer familiar with irrigation data and experience in California and other western states, but expressed his views as a practical engineer especially familiar with irrigation conditions on Bishop Creek and other parts of Owens Valley during the past 16 or 17 years. Moreover, the opinion of Mr. Clausen as to the proper duty of water on lands in the Bishop Creek area is fully supported by actual facts and experience in that area, as we shall now proceed to show from the evidence in the case.

1. *The Bishop Creek Water Supply.* The average flow in Bishop Creek for the irrigating season, to-wit, April, May, June, July, August and September, for the sixteen year period, 1904 to 1919, inclusive, as shown by measurements of the United States Geological Surveys and by plaintiff companies, placed in evi-

dence by stipulation of the parties (Pltffs' Ex. 1-F), are as follows:

April 1 to 15	53	second	feet
April 16 to 30	83	"	"
May 1 to 15	126	"	"
May 16 to 31	180	"	"
June	318	"	"
July	326	"	"
August	173	"	"
September 1 to 15	92	"	"
September 16 to 30	71	"	"

Owing to the great length of the period covered by such measurements, the averages indicated may be said to apply not only to the period studied, but to the entire history of irrigation on the creek.

2. *The Clausen duty of water is fully sustained.*

As we have seen, the area under irrigation from Bishop Creek in 1887 and prior thereto was 8570.3 acres of land, now owned by defendants and included in the large area covered by the cross-bill, and the rights under which such water was so used have ever since been appurtenant to such lands. We have also seen that the low flow of the creek during the months of April and September were all appropriated and used on the 8,570.3 acres of land.

Hence, with an average flow, in second feet, in the stream of 53 for April 1 to 15; 83 for April 16 to 30; 92 for September 1 to 15, and 71 for September 16 to 30, we have the following duty of water, to-wit: April

1 to 15, .185 acre feet; April 16 to 30, .290 acre feet; September 1 to 15, .322 acre feet; and September 16 to 30, .250 acre feet. This duty for the periods mentioned is substantially the same as that assigned by Mr. Clausen [Tr. pp. 2543-4], and is a proper duty, provided, of course, that the water was necessarily used on the irrigated area, and this question will be dealt with under our next head.

3. *Long-continued use of appropriated water raises the presumption of necessary and beneficial use.* Having, as stated above, the average flow of water in the creek for the months of April and September, and the application of those flows to the irrigated area specified, to-wit, 8,570.3 acres, the question arises whether such use corresponded with a proper and reasonable duty of water. The presumption is that it did and such presumption may only be overcome by a clear and satisfactory showing that the appropriator used more water than was reasonably necessary.

In Campbell v. Ingraham, 37 Cal. App. 728, an action involving conflicting claims to the use of water, the trial court had found that a certain quantity of water had been used by respondent for many years, without objection from appellant, for the irrigation of hay and grain and for garden purposes. The Appellate Court says:

> "From such use it would be proper to infer that it was necessary in order to produce profitable crops."

In California Pastoral etc. Co. v. Madera etc. Irr. Co., 167 Cal. 78, 87, it is said:

> "In determining how much of the water in fact used had been reasonably necessary for the purpose for which it was used, we believe that a court should be liberal with the appropriator to the extent at least that it should not deprive him of any portion of the amount of water that he had in fact used for the period necessary to gain title by prescription, unless it is clearly and satisfactorily made to appear that he has used more than was reasonably necessary. The presumption would appear to be in his favor, for ordinarily one would not take the pains to use upon any land more than was reasonably necessary under all the circumstances."

The doctrine announced in the last case is applied by the District Court of Appeal in Stinson Canal & Irr. Co. v. Lemoore Canal & Irr. Co., 188 Pac. 77. In that case the question was involved as to the quantity of water that could be devoted to a beneficial use on certain lands. The appellants were dissatisfied with the decision of the trial court as to the number of feet of water to which they were entitled, and hence took an appeal. As was recited by the District Court, experts were called by respondents to testify as to the reasonable use and duty of the water on the area involved. These experts made detailed examination of the water systems and the lands thereunder, and testified as to the amount of water required by orchards, vineyards and alfalfa throughout the districts under such systems, and concluded that a duty of water of one acre foot would be sufficient. One of the experts

expressed it as his opinion that too much water had been used on the lands of appellants, thereby causing "the country to be water-logged." According to the testimony of these experts, the allowance of water made by the trial court was reasonable.

These experts were met by witnesses, including farmers, ranch superintendents, ditch tenders and irrigators, who testified from their observations, experience and knowledge as to the amount of water required on the lands in question. The testimony of these witnesses strongly tended to show that the allowance of water by the trial court, on the basis of reasonable and necessary use, was insufficient.

The Appellate Court, speaking of the testimony of the farmers and witnesses who relied on their own observations, experience and knowledge, as against the opinion evidence of the experts, said:

> "It is true that the credibility of these various witnesses was to be determined by the exercise of a wise discretion on the part of the trial judge, and it is not for us to say that their statements should have been accepted at their full face value, but it is at least apparent that this class of testimony is of a higher quality than the mere opinion of an expert. It is the difference between practice and theory, between experience and mere observation or examination."

The court also stated—and to this statement we ask particular attention because of its bearing on the point which is under immediate discussion here:

> "There is this, also, to be said: That it is not at all probable that a number of farmers would

> use, for many years, for the purpose of irrigation, an amount of water that would destroy or impair the value of their land. Of course, they would not willingly do so; and it is hard to believe that in these days of intelligent and scientifically directed agriculture, these men, who have located and built up a thriving community, would make such a grievous mistake as to cause deliberately their lands to become water-logged and depreciated for all the purposes of husbandry."

And again the Appellate Court, dealing with the same question in that case as that which we are now discussing, said:

> "The very fact that they used for so many years a certain quantity of water is, indeed, very persuasive evidence that such quantity was actually needed for such purposes. It is not conclusive evidence of that fact, but it is a circumstance of impressive significance. The evidence having shown, therefore, that appellants diverted and used for many years a larger quantity of water than is awarded in the judgment, the strong probability is that it was all needed. The value of such use as evidence of the need for the water is apparent, and we may add that it is so recognized by the Supreme Court in the California Pastoral etc. Co. Case, *supra*, wherein it is said:"

(At this point the court quotes the paragraph from the California Pastoral Case, which we have set forth above.)

The foregoing decision of the District Court of Appeal enables us to bring to the attention of the arbitrator a situation strikingly similar to that to which this controversy relates, and since that decision, on

points peculiarly applicable to the present case, is based upon a rule laid down by the Supreme Court of California, we cite it as an authority practically controlling here.

4. *April duty, as determined by long continued use, requires a total duty sustaining the Clausen figure.* As pointed out above, long continued use proved and established as proper .185 acre feet as the duty for April 1 to 15, and .290 acre feet as the duty for April 16 to 30, or .475 acre feet as the duty for April. Mr. Means submitted certain percentages for distributing the total season's duty among the constituent months. According to those figures, as adapted to a six months irrigating season (see Plaintiffs' Opening Brief, pp. 128-9), the duty for April is ten per cent of the total duty. With, then, a duty of .475 for April, as determined by actual long continued use, we have, according to the Means percentages, a total duty of 4.75 acre feet. This figure, while slightly larger than that submitted by Mr. Clausen for the total duty, sustains the latter's figure.

5. *Reasonable duty is not only determined by long use, but is enforced by condition of limited water supply and unlimited irrigable land.* Granted that the condition cited by counsel, on the Sacramento River, where the water supply is abundant and the land is limited, would not be conducive to the determination of proper water duty, the very fact that the reverse of

that condition exists on Bishop Creek is conducive to such determination on the area adjacent to that stream. In other words, counsel's illustration reacts on them and supports our contention. We think it would be well to dwell further on the present point.

The cross-bill embraces 11,027 acres of irrigable land lying under and within easy reach of Bishop Creek. The evidence shows that of this acreage, there are 416 acres, adjacent to lands irrigated from Bishop Creek, which have never been supplied with water from any source, and 1,838 acres, a portion of which has never been supplied from Bishop Creek, but has obtained its supply from other sources, and the rest is only partially supplied from Bishop Creek and obtains the remainder from other sources. (Appendix A to this brief.) And this condition has existed ever since 1887, or prior thereto.

6. *Water usage in July, 1920, on the Bishop Creek area also sustains the Clausen figure for proper duty.* During the month of July, 1920, the average daily flow of Bishop Creek available to the defendants was 106.1 second feet. (Defs.' Ex. F.) This supply, as shown by the testimony of Mr. Clausen [Tr. pp. 2537-40], was applied to 7.028 acres, 100% irrigated, including the equivalent of 450 acres lying below the Bishop Creek canal. This gave a water duty of .936 acre feet per acre.

This 7.028 acres is gross area, no deduction having been made for standard exceptions such as buildings,

corrals, roads, etc., for the reason that such exceptions are more than offset by losses through seepage and evaporation as affecting the supply of 106.1 second feet as carried through the different ditches to the points of use.

There was no evidence of any unreasonable waste of water in the application of the supply for July, 1920, to the area irrigated. As we pointed out in an earlier part of this brief, apparently excessive use of water under the rotation system on the different ranches did not necessarily involve any actual waste, for the reason that the same water was used over and over again as it descended from the upper to the lower ranches, and when the quantity of water consumed on the irrigated area, taken as a whole, was considered, there was no substantial waste. A short supply was calculated to produce economy of use.

The evidence in the case shows that the water demands are substantially uniform during the months of June, July and August, and therefore, on the basis of a water duty of .936 acre feet for July on the area here involved, we would have a net duty for the thirty days of June of .906 acre feet, and for the thirty-one days of August, .936 acre feet.

As pointed out by counsel, at pages 128-9 of their brief, Messrs. Means and Clausen agree as to the percentages of total season's duty which should be assigned to April and July. We have shown that on this basis the April duty, as fixed and determined by long continued use, called for a total duty slightly in

excess of that assigned by Mr. Clausen. That fact is in our favor, as Mr. Clausen was imposing an even higher duty than actual experience indicated was proper. Application of the supply available for defendants' lands for July, 1920, under conditions favorable to economy of use, gave a duty of .936 for that month, and this duty, on percentages as to which Messrs. Means and Clausen also agree, calls for a total season's duty of 4.64, and that is substantially Mr. Clausen's figure for the proper duty of water from Bishop Creek for defendants' lands.

Mr. Clausen's figure as to the proper duty of water on Bishop Creek lands is, therefore, not a mere expression of opinion but is a figure checked, determined and sustained by the results of the application of water under conditions imposing care and economy of use.

For convenience in the examination of this brief, we insert at this point the following tabulation based upon the foregoing study, showing the duty of water, second feet daily mean flow required and total monthly requirements, for irrigating 8,570.3 acres of the lands of the defendants from Bishop Creek:

Period	Ac. Ft. per Ac.	Daily Mean Flow in Sec. Ft.	Ac. Ft.
April 1-15	.185	53	1590
April 16-30	.290	83	2490
May 1-15	.371	106	3180
May 16-31	.444	119	3808
June	.906	129	7740

July	.936	129	8021
August	.936	129	8021
Sept. 1-15	.322	92	2760
Sept. 16-30	.250	71	2142
Totals	4.64		39752

7. Testimony of Shuey, Eaton and Watterson. George R. Shuey, civil engineer and practical farmer, with long experience in Owens Valley, made an examination and survey of the Bishop Creek area for the purpose of classifying the soils and determining the water requirements of the lands in the different zones of the area. A map prepared by him, showing the zones established by him for such purpose, which were three in number, was introduced in evidence as Defendants' Exhibit "R." [Tr. p. 2591.] According to his testimony, zone 1, embracing lands with coarse, granitic soils in the upper section of the area, contains 15%; zone 2, embracing lands with medium soils, contains 35%; and zone 3, embracing lands with the denser soils, contains 50% of the total area. [Tr. pp. 2590-3.]

Mr. Shuey, basing his conclusions on his experience and tests in other parts of the valley, stated that the water requirements of lands in zone 1 were 7 acre feet; of lands in zone 2, 5.5 acre feet; of lands in zone 3, 3 to 3.5 acre feet. According to the respective acreages in the three zones, the water requirements of the area as whole would, under his figures, be from 4.55 acre feet to 4.72 acre feet per acre. [Tr. p. 2594.]

The witness had examined various ranches to determine the proportionate extent of the usual exceptions from the irrigated area, such as roads, corrals, house lots, sloughs, ditches, fence lines and creek beds, and he found that they ran from 3 to 8 per cent. [Tr. p. 2598.] Regarding the testimony of Mr. Means, that to put the Bishop Creek system in first class condition and prepare the land for irrigation under modern methods, would cost not to exceed $20 per acre, the witness declare that it would cost at least twice that sum. [Tr. p. 2602.]

The witness approved the method, employed on the Bishop Creek area, of using large heads of water and getting over the lands quickly. He testified [Tr. pp. 2614-15]:

"Q. I want to get you back to a point you testified to where your attention was called to the fact that in a certain area eight or nine acre feet were employed on the lands in that certain area. You were asked whether or not that was excessive use, and you said yes. Would you say that, having in mind the fact that the run-off as a rule is used and re-used by the farms in the neighborhood?

A. No, it would not be excessive use as affecting the whole district, but as affecting that individual property it would be excessive use.

Q. If the run-off went to waste, and the use could be efficiently confined to the farm, it would be a different situation?

A. Yes, sir.

Q. But where the farms are handled as a part of one general system, and the run-off is used and reused, or restored to the creek and taken out below,

then the usage may be high, and yet consistent with reasonably efficient use?

A. Yes."

We feel that Mr. Shuey's professional attainments and long practical experience in farming and irrigation in Owens Valley, give special weight and reliability to his testimony.

Mr. Eaton, engineer and practical irrigator in the Big Pine district, gave it as his opinion that 5 acre feet was a proper duty of water in the Bishop Creek area considered as a whole. He assigned 10 acre feet to the upper section, 5 acre feet to the middle section, and 3.5 acre feet to the lower section. He based his figures on his personal experience and experiments in the Big Pine region, lying fifteen miles south of Bishop Creek, where, as testified by him, there are substantially the same character and classes of soils as under Bishop Creek. [Tr. pp. 2653-7.] The witness assigned 10 per cent to the usual exceptions, including swamps, from the irrigated area under Bishop Creek. [Tr. p. 2658.]

George Watterson, who for many years has been secretary of the Bishop Creek Ditch Company, and a practical farmer on lands owned by him near the town of Bishop, and familiar with irrigation in the Bishop region, testified that he agreed with witness Shuey as regards the duty or reasonable use of water on the Bishop Creek area, except that he felt that zone No. 1, containing coarse and porous granitic soils, should also include a small portion of zone 2. [Tr. p.

2629.] Regarding shorter runs for irrigation, the witness testified that in some cases that method would apply and in some cases it would not apply, because of extreme roughness of the surface of the ground and the fact that the soils are shallow and could not be redistributed without destroying their fertility. [Tr. p. 2630.] He examined three ranches to test the question of the proper percentage to be allowed for places excluded from irrigation. All three ranches were at road corners, and contained 40, 80 and 160 acres respectively, and he found the percentages for these were 8, 3.5 and 7. [Tr. p. 2585.]

The testimony of witnesses Shuey, Eaton and Watterson supports the conclusion of Mr. Clausen.

(8) *Lee and Clausen experiments.* Mr. Charles H. Lee, engineer, now president of the State Water Commission, made certain tests in 1909 to determine the duty of water on various ranches under Oak Creek, near Independence, California, and the results of these studies were published in Water Supply Paper No. 294 of the United States Geological Survey, and introduced in evidence here. [Tr. pp. 2552-6.]

These ranches are in an area possessing substantially similar soil characteristics to those of the Bishop area, that is, the soils range from very coarse and porous materials in the higher stretches to finer and closer materials at the lower levels. Ranch No. 1, containing 109 acres, is high, well drained, with porous soil. George Watterson refers to this as the Schabbel

ranch, and says it corresponds to lands in zone 1 under the Shuey classification of the Bishop area. [Tr. p. 2632.] Mr. Lee, in his report, says, regarding this place, that the water is used economically, and 7.22 acre feet is the least amount which would mature crops.

Some of the ranches embraced in Mr. Lee's studies used a much greater quantity of water than ranch No. 1, but the use did not appear to him to be economical, and some ranches, corresponding more or less closely with lands in the lower sections in the Bishop area, used 2.34 acre feet and 2.8 acre feet.

The water duties determined by Mr. Lee were net, that is, they were based on measurements made at the point of entrance to the ranches.

Mr. Lee, in his report, refers to the experiments made by Mr. J. C. Clausen in 1904 for the Reclamation Service, on two ranches near Bishop, with the result of 7.11 acre feet on one, and 9.17 acre feet on the other.

The results of the foregoing studies and experiments of Mr. Lee and Mr. Clausen support the claims of the defendants in this case.

VII.

The Irrigators From China Slough Are Entitled to Relief in This Case.

The following lands involved in this case are irrigated, in whole or in part, from China Slough:

Cashbaugh Estate	70 acres.	[Tr. p. 1918.]
Mayhew	50 "	" "1706.]
Newlan	50 "	" "2396.]
Sullivan	60 "	" "1903.]
Summers	80 "	" "1853.]
Tweedy 160	"	" "1776.]
Clarke, George A.	12 "	" " 564.]
Clarke, Mary	60 "	" " 564.]
Gibson	5 "	" "1632.]
Total .....547 acres		

The following lands, embraced in the foregoing, also obtain water from another source, namely, the Bishop Creek canal:

Newlan	25 acres
Summers	37 "
Tweedy	50 "
Total .....112 acres	

leaving a balance of 435 acres irrigated exclusively from China Slough.

We submit that, if the evidence shows that these lands are irrigated from a source embraced in the general Bishop Creek supply, then, the defendants

owning these lands are entitled to a decree quieting their title and granting them injunctive relief as against plaintiffs.

Bishop Creek falls within the following language, employed by our State Supreme Court in McClintock v. Hudson, 141 Cal. 275, to-wit:

> "The streams of this state and their course through the lower levels, after they have left the precipitous sides of the mountains on which they originate, do not ordinarily flow over beds of rock or other material impervious to water. The usual condition is, that such streams flow in a shallow channel, over and through a mass of sand and gravel saturated with water from bed rock up to or slightly above the level of the surface of the stream."

China Slough has been a familiar feature of the Bishop Creek drainage area from the days of the earliest settlements in that region. While its outlines, location and general conditions have been affected more or less by farming operations and the improvement of property in its vicinity, yet what is left of it still indicates its connection with the general body of water issuing out of Bishop Creek Canyon and flowing thence partly in surface channels and partly underground through the porous materials throughout the delta cone created by the stream. The slough, as we know it today, unquestionably derives a considerable part of its waters through drainage resulting from irrigation on lands in the neighborhood, and yet it also derives a substantial part of its supply directly from the flow of the creek.

The slough is depicted on United States Geological Survey map, Bishop quadrangle, as heading in the vicinity of the town of Bishop, and running thence in a general southeasterly direction for a distance of about six miles, to and connecting with Owens River. Rising in the creek delta it runs and swings in substantial parallel with the surface forces of that stream. That these forks and the slough come from and are part of the same supply, is plainly indicated on the ground.

In the McClintock case the question was involved whether percolating water obtained by means of a tunnel constructed in the land near the surface channel of the stream, was part of the underflow of the stream known as "San Jose Creek." The court says:

> "The topography of the country and the situation of San Jose Creek, with the character of its bed, are alone almost sufficient to prove this fact."

So here, with reference to China Slough, the topography of the country and the situation of Bishop Creek, with the character of its bed, are alone almost sufficient to prove that the natural flow of the slough, surface and underground, is in contact with and part of the general flow of the creek. Such natural conditions were supplemented by other competent evidence.

Mr. Eaton showed that he had had considerable experience as an engineer in regard to underground waters, and he gave it as his opinion, based on observation of surface conditions, that the water supply

manifesting itself in what is known as "China Slough" was in contact with the waters of the creek, and came in part through percolation direct from the creek and in part from drainage or run-off from irrigation in the vicinity. [Tr. pp. 2658-67.] He also testified that if Bishop Creek were eliminated, and there were no artificial accretions to the slough supply, the slough would disappear except as affected at its lower end by the natural flow of Owens River. [Tr. pp. 2666-7.]

Mr. Huber testified, in reference to China Slough:

"This is a delta cone which probably had underground water in it before any artificial means of controlling the stream were here, and China Slough being a low place; probably some cienegas." [Tr. p. 2748.]

Also:

"Q. You say the creek might in time of high water throw some of its water towards the China Slough area, and some of it get into the China Slough?

A. Yes. I wish to explain that any delta cone like this is built up to a considerable extent by such floods." [Tr. pp. 2749-50.]

He says further:

"It is a low spot in the region, and it is where floods such as would overflow the banks of Bishop Creek might send a part of their waters." [Tr. p. 2750.]

"Q. Is it your judgment as an engineer that before artificial conditions affected the area, there would be drainage by percolation from the creek through that region, manifesting itself on the ground where we now find China Slough?

A. Yes. The creek probably supplied underground water to the whole delta cone, and that being a low place it probably comes in from various sides, the

property about there is a swamp, or cienegas." [Tr. pp. 2748-9.]

We therefore submit:

1. That China Slough, as to its natural supply, should be considered and treated as part of the subsurface flow of Bishop Creek, and that the rights of the defendants whose lands have been supplied with water therefrom should be determined by the same legal principles as apply to the lands of defendants which are supplied from the surface stream.

2. That even if the waters naturally supplying China Slough are to be regarded as percolating waters moving outside of the channel of the creek, still the source of those waters is the flow of the creek, and the storage of plaintiffs, having the effect of diverting and impounding a large part of the waters of the creek during the irrigating season, and thereby reducing the supplies depending on the creek during that period, involved a trespass on the rights of defendants whose lands are irrigated from China Slough, and those defendants are entitled to relief against the wrongful acts of plaintiffs.

The court, in Cohen v. La Canada Land etc. Co., 142 Cal. 437, 439, says:

> "But since the trial of the cause in the court below, it has been definitely settled by this court in Katz v. Walkinshaw, 141 Cal. 116, and subsequent cases, that the question whether one can maintain an action for deprivation of the use of

> the water by the act of another does not depend upon the fact that the deprivation was caused by the tapping or intercepting of a known stream running in a defined channel, either on the surface or underground. In such an action it is sufficient for the plaintiff to show that wrongful acts of the defendant complained of did actually deprive plaintiff of water to the use of which he was legally entitled; and if these acts consisted of subsurface excavations it is not necessary for the plaintiff to show that a well-defined subterranean stream had been intercepted, or to show the particular subterranean conditions which were disturbed, provided it clearly appears that the acts of the defendant caused the destruction or diminution."

Katz v. Walkinshaw, 141 Cal. 116, established the principle that water may not be diverted from land lying in a belt which has become saturated with percolating water, for exterior or distant use, to the injury of any owner of land in such belt. The acts of plaintiffs, in impounding the waters of Bishop Creek, from which the natural supply of China Slough emanates, so as to substantially curtail and reduce the supply of water in such slough for the lands irrigated therefrom, are as clearly within the principle laid down in the Katz case as they would be if the supply thus withheld from the irrigators were conveyed away from the Bishop Creek area to distant points of use.

VIII.

Waste.

Counsel for plaintiffs devote 47 pages of their brief to the discussion of waste. Many discrepancies of statement are found in this part of their argument. Some of these we will note. They say, that the testimony shows that the season's usage of water on the place of J. C. Kewley is 28 acre feet, whereas 14 acre feet is the correct figure; on the place of C. M. Dixon is 5.9 acre feet, whereas 3.9 acre feet is the correct figure; on the place of J. M. Brockman is 7.4 acre feet, whereas 4.2 acre feet is the correct figure; on the place of W. C. Bulpitt is 3.1 acre feet, whereas 2 acre feet is the correct figure; on the place of W. P. Yaney is 11.4 acre feet, whereas 6.9 acre feet is the correct figure; and on the place of J. G. Henderson (Parcel 2) is 6.9 acre feet, whereas 2.3 acre feet is the correct figure.

Many other misstatements might be cited from this part of counsel's brief, but as a rule they are involved in broad, general and unproven assertions which render a detailed reply impracticable as well as inadvisable, and we must leave them to be observed and noted by the arbitrator in his examination of the argument of counsel.

However, counsel insist on certain propositions, which we shall attempt to deal with separately and under definite heads.

(a) *Counsel's assertion that the Bishop Creek irrigation system is operated on the principle of "every man for himself," is unjust and unfounded.* The evidence showed that the water supply is distributed and used by the farmers, acting co-operatively and with the assistance of the zanjero, under the rotation method; that the farmers take turns; that they give notice in advance of their requirements and wait until prior notices are complied with; that in times of shortage they submit to regulations denying water for pasturage in order that other and more perishable crops may be irrigated; that, acting on the principle of each man in turn, they allow water to pass their places in the creek or in ditches for the use of others, even at times when they badly need it themselves. The arbitrator will remember the implication of criticism made by counsel for plaintiffs in repeated questions where it appeared that farmers, though needing water, instead of acting "each for himself," allowed a supply to pass their farms and go to other places to which it had been assigned by the zanjero under the rotation system. In the distribution and use of this supply, the whole. In short, it was the attitude of counsel at the hearing to rather urge that the failure of the farmers to grab the water when needing it, and disregard the necessity of others, was a species of remissness on their part possibly affecting their rights.

(b) *Counsel's assertion that more than nine-tenths of run-off is entirely wasted and lost, is obviously un-*

founded. They cite from the record no figures based on tests, experiments or experience to prove such assertions. Their client, the Hillside Company, has been operating an irrigated ranch in the Bishop region for thirty years, but they produced no data from the lands of that company, or elsewhere in Owens Valley, to justify their claim regarding losses in run-off.

As we have heretofore set out, the available supply from Bishop Creek for the irrigation of defendants' land in July, 1920, was 106.1 second feet, and 7,028 acres were irrigated with this supply.

The entire supply was consumed on that area, and there was no run-off from such area considered as a whole. In the distribution and use of this supply, the amount applied to individual ranches aggregated 180 second feet, thus implying a run-off of about 74 second feet. Counsel say that not one-tenth of this run-off could have advantageously been used even if an effort had been made to do so. (Pltffs' Op. Brief, p. 53.) This means, according to their claim, that more than 67 second feet was absolutely wasted and lost. This is a wild and reckness assertion, without justification in the record. It assumes, as appears from the argument of counsel (Plffs' Op. Brief, pp. 53-4) that the farmers on the lower ranches do not need and cannot use the run-off from the places above because of diversified agriculture, and it therefore, with the exception of the small amount of less than one-tenth, is lost for any purpose of irrigation.

Witness Shepard, the zanjero, described the manner of handling run-off in the seasons 1919 and 1920. He testified as follows [Tr. pp. 2200-1]:

"Q. Did you give any attention to the matter of run-off water in 1919 and 1920, with regard to making it go around?

A. Yes, sir, I paid particular attention to handling the run-off water, and putting it on the ranches below.

Q. How would you go about that? How would you accomplish anything in that regard?

A. Well, a good many of the ranches, except in a few cases, have waste ditches which either lead back into the creek or onto the other man's ranch. And I would notify them that there was run-off water. The rule on that is that if he didn't finish with the run-off water, I would give him a little out of the creek, regardless of his turn. There is a big saving of water by doing that."

And again, on cross-examination [Tr. pp. 2208-9]:

"Q. Did you do anything in 1919 or 1920 to improve the waste water situation?

A. Yes, sir, I did.

Q. What did you do?

A. I picked it all up; made them clean their run-off ditches out, so I could use it on the ranches below, and watched them very close to see that they did not run too much water.

Q. You let them continue to run the water down through the waste ditches, and then you made an effort to get that waste water used by the lower users?

A. I did not 'make an effort'; I did do it, except in a very few cases where it was impossible.

Q. Do you feel confident you did that over the whole area—accomplished the purpose you attempted to?

A. Yes, sir.

Q. That was in both years?

A. Yes, sir."

It will be borne in mind that the water duty for July, 1920, with complete utilization of run-off as described by witness Shepard, was .936 acre feet per acre, a figure calling for a total season's duty of 4.64 acre feet per acre, which we claim is a proper and reasonable duty for the area taken as a whole.

Counsel admit that if contiguous tracts were handled together under one control, the run-off from the upper farms to the lower could be used on the latter without waste. (Plffs' Op. Brief, p. 54.) The testimony in this case shows that the farmers, though having separate ranches and rights, have come to the practice of conducting their irrigation co-operatively, thus effecting practically the same economy of use as counsel admit would occur under unity of control and management.

There is nothing in the case opposed to the testimony of witness Shepard as to the complete utilization of run-off, except the unfounded assertions of counsel for plaintiffs.

(c) *Plaintiffs' "mute witnesses" give an exaggerated idea of waste.* We refer to the numerous photographs put in evidence by plaintiffs to show excessive use or waste of water on the Bishop Creek area. There must be some waste of water where the flow of a creek, upon issuing from the mountains, is directly applied to a district composed of farms lying upon the slope of the creek delta. Water, at best, is hard to control, but given a rushing supply, affected by

artificial disturbances which are not timed with any regard to the needs or operations of the irrigators, and the difficulty of keeping down waste is considerable. Plaintiffs claim that during the years 1914 to 1918 they have diverted and impounded in their reservoirs the waters of Bishop Creek during the high months up to the capacity of such reservoirs, and have drawn off and released the water so stored "at such times and in such quantities and in such manner as required by the operation of the plaintiffs' power plants," subject only to a 90 second-foot equation for the use of the farmers, and during such period have fluctuated and varied "the discharge of all the waters of Bishop Creek used through said power plants as required by the operation thereof and the demands thereof." (Plffs' Op. Brief, p. 140.) The evidence for plaintiffs directed attention particularly to the manner in which the farmers used the water during the year or so just preceding the commencement of this suit. With plaintiffs manipulating the flow of the creek to suit their own purposes, as claimed by them, with fluctuations produced by the ordinary operation of their plants, and with the tremendous fluctuations caused by interruptions on their power system, no one reasonably could expect the irrigators, even by the greatest care or ingenuity, to so handle their water supply from the creek as to entirely offset the effect thereon produced by such power operations.

Mr. Means produced and put in evidence a book of regulations of an irrigation district, which he had

cited as an example of efficiency in the management of a water supply, and one of these rules read thus [Tr. p. 2707]:

"'Water must be used continuously by the irrigator throughout the period of the run, both day and night. If water is wasted or improperly used, the superintendent may refuse further delivery of water until the cause of waste is removed.'"

And then the witness testified [Tr. p. 2707]:

"Q. What would you do in a case like this, that is, in a district such as the Bishop area, where the flow of water is affected by the fluctuations caused by the power plants above preventing continuous use?

A. I would try to have those fluctuations corrected.

Q. Will you say what the power companies ought to do in that respect? You can see how the observance of that rule in a territory like this might be made difficult if there was the factor of power companies on the stream above to be considered.

A. I appreciate that fluctuations will make any operation at night more difficult."

However, we are convinced that the chief waste of water, resulting from a disturbance of the stream flow through power operations, is on account of the necessity of repeating irrigations where the use of water is interrupted, thus contributing to loss through deep percolation.

Plaintiffs put in evidence many photographs, but no measurements or other definite data, to show waste of water in roads. Any substantial amount of water in a road is calculated to be impressive, even though it really does not amount to enough to irrigate a town lot. Such apparent waste in the Bishop area is con-

sistent with reasonable care in the distribution and use of water by the farmers generally. Of course, some carelessness is to be expected under the most perfect system, and then on a large area frequent accidents will occur to cause waste or loss of water. Gophers will cause waste, and on lands affected by heavy gradients, such as those under Bishop Creek, even a small head of water escaping from a ditch will soon cover a road and make an appearance of considerable loss. As a matter of fact, the loss may be, and generally is, very small, and we are convinced that the waste of water in roads in the Bishop Creek region is infinitesimal. Ditches run along in close proximity to the roads, and water escaping from a field into the roads soon gets back into a channel or lateral and becomes available for use lower down.

As already pointed out, Bishop Creek area presents the condition of unlimited lands and a limited water supply, automatically correcting waste. Moreover, as the evidence shows, the demand for water is so closely adjusted to the supply that from time to time during the past thirty or more years shortages have been experienced by the farmers leading to injury and loss of crops, and also provoking action by them to interrupt the diversions of junior appropriators. In this situation, it is a reasonable presumption that self-interest and ordinary prudence would lead the irrigators under the Bishop Creek supply to suppress and prevent practices involving substantial waste of water. If the loss of water through the escape into roads

or other places exposed to public view, were considerable, the farmers, knowing from experience the hardships resulting from a short supply, could be depended on to suppress any such waste.

(d) *Waste exceeds beneficial use, is another unproven assertion of counsel for plaintiffs.* (Plffs' Op. Brief, p. 60.) On this basis, not more than 53 second feet, instead of 106 second feet, should have been used in July, 1920, to accomplish the irrigation of 7,028 acres. One hundred and six second feet had been determined to be necessary for such purpose by usage extending over more than thirty years, and this cast cannot be met or overcome by mere reckless statements of counsel.

over more than thirty years, and this fact cannot be met or overcome by mere reckless statements of counsel.

Counsel say that the evidence indicates that the Bishop Creek irrigators are indolent and indifferent in the use of water, implying that their love of ease prevents them from utilizing the supply when they should be busy with irrigation. Pltffs' Op. Brief, p. 64.) Such assertions are not justified by the evidence, nor called for on any ground, and we leave them to fall by their own weight, except that we will call attention to the fact that plaintiffs did not prove that any part of the supply was allowed to pass unused from the area irrigated from Bishop Creek.

IX.

Extension of Stipulation for Arbitration.

1. Coyote Creek is a natural tributary of Bishop Creek. Some years ago, Coyote Creek was diverted from its natural channel for the irrigation of lands about six miles south of Bishop Creek. The creek is about nine miles long and the point of such diversion is about four miles from its junction with Bishop Creek. Even if such diversion has ripened into a right against the appropriators and riparian owners on Bishop Creek, yet the make of the stream below the point of diversion and its flow during the non-irrigating season are still part of the Bishop Creek supply. The make of the stream, resulting from the early run-off, is of special importance to Bishop Creek users, and their interests particularly require that their rights to the same shall be recognized and protected. The evidence does not show the quantity of water in Coyote Creek which is subject to the alleged rights of plaintiffs. The only measurements on Coyote Creek introduced in evidence were made at its junction with Bishop Creek [Tr. p. 2768], and these included the entire flow of the stream at that point. This situation was noted during the last moments of the hearing, and it was rather understood that the engineers of the parties might get together and agree on the data requisite for including Coyote Creek in the adjudication. We are prepared to co-operate with the other side in that regard.

2. Birch Creek rises in the area northerly from Bishop Creek and has been diverted by the companies from its natural channel into that creek so that its waters may be dropped through the companies' generating plants. The alleged right of the companies to so divert Birch Creek is based solely upon a deed to the Turner Ranch and permits or licenses issued by the State Water Commission. The companies claim that long years ago Birch Creek was diverted from its natural channel by a ditch constructed so as to intercept the flow of the creek and convey it to and onto such Turner Ranch, and that such conveyance carried that appropriation as appurtenant to said ranch. Defendant Powers claims a right by appropriation to 25 miner's inches. This appropriation was above the Turner Ranch. The companies, upon the strength of the Turner deed, diverted the waters of the creek above the Powers appropriation. Below the Turner Ranch are several farms, one belonging to defendant Allen Matlick, which, for a great many years immediately preceding the diversion of the creek by the companies, used water from the creek through the so-called Turner ditch. The owners of such farms, other than Matlick, are not joined as defendants in this suit. However, as we are advised, all such owners, including defendant Matlick, are willing that their rights in Birch Creek should be passed on and settled by the arbitrator. The stipulation for arbitration only includes Bishop Creek, but we feel sure no difficulty would be experienced in bringing these outside inter-

ests on Birch Creek into a stipulation settling the facts and submitting their case to the arbitrator, if plaintiffs are willing. With such a stipulation we would wish to submit a citation of authorities, only a few in number, bearing on the peculiar situation in which the interests on the Birch Creek supply, below the Turner Ranch, have been placed by the diversion of the companies. Counsel for plaintiffs could, we believe, have such stipulation with the authorities, in time for their reply to this brief.

3. The Elmer Bodle estate owns 20 acres in the Bishop Creek area, which is not included in this suit. It is described as that part of the northeast quarter of the southwest quarter of section 11, township 7 south, range 32 east, M. D. B. & M., lying easterly of and below the Owens River Canal. Said Bodle died prior to the commencement of this suit. Letters of administration on his estate have recently been taken out. A stipulation can be obtained from the administrator to include this property in the arbitration, if agreeable to plaintiffs. As this property is irrigated from Bishop Creek, and is adjacent to lands in this suit, lying easterly, northeasterly and northerly, which are included in the stipulation of priorities, we suggest its inclusion in this suit and in such stipulation, in the interest of a complete adjudication of Bishop Creek rights.

4. Two hundred and three acres, in the town of Bishop, constituting part of the old irrigated area

under Bishop Creek, and still served by separate ditches from that creek, are not joined in this suit. This acreage is exclusive of the lands in that town, which are supplied from the municipal water system. The owners of the parcels making up the 203 acres can be easily reached and brought into the arbitration, so that their rights might be adjudicated on the evidence already submitted, if plaintiffs will agree.

X.

Additional Reservoirs.

1. *Reservoir for diurnal regulation.* With no regulating reservoir between the power plants and the heading of the Bishop Creek irrigating system, fluctuations of stream flow caused by power operations directly affect the heads at points of diversion, and this condition should, on reasonable and equitable grounds, be remedied by the companies. It can be accomplished at a moderate cost, approximately $60,000 as estimated by Engineer McCarthy. [Tr. p. 2567.] Continuation of such interference with an essential industry which existed long prior to the advent of the companies, when it could be avoided at a trifling expense compared with the injury caused, is an outrage.

General Agent Criddle, recognizing that power operations affected the flow of the stream to such an extent injurious to the irrigators as to call for remedial action by his employers, stated, in his letter to the

association, in 1913, "I hope before next season we may be able to work out some method by which the daily fluctuations can be corrected." [Tr. p. 2650.]

Chief Engineer Poole testified that he had considered and made estimates upon the installation of a regulating reservoir below the power plants which would obviate daily fluctuations. He further stated:

"Q. But it is feasible, by building a regulating reservoir below, to regulate the stream and obviate the fluctuations due to daily operations?

A. I should say, very largely." [Tr. p. 129.]

No method of correction has ever been worked out by the companies, and power fluctuations still annoy and damage the irrigators in years of short supply.

2. *Reservoirs for yearly regulation.* The present reservoirs of the companies handle only a portion of the creek run-off. The result is that, while the farmers get some more water than natural flow in the early spring and the fall, any advantage from this condition is largely nullified in short years by the curtailment of their summer supply. Under average water conditions the storage of the companies, as at present provided, is of no advantage to the farmers in the summer time. In a word, it is so limited as to injure them in short years and to give them little or no benefit in normal years.

The mass study of witness Clausen on Bishop Creek disclosed in a striking manner the possibilities of storage on that stream. [Tr. pp. 2548-52.] It was based on the sixteen years' records of stream flow,

which are in evidence in this case. (Defendants' Ex. D.) In this study the requirements, in acre feet, for irrigation other than on Hillside lands, adjusted in accordance with corrections of acreage served, which an examination of the evidence has shown to be proper, were assumed to be as follows: April 1-15, 1590; April 16-30, 2490; May 1-15, 3180; May 16-31, 3808; June, 7740; July, 8021; August, 8021; September 1-15, 2760; September 16-30, 2142.

On the basis of unlimited storage, Mr. Clausen showed that, after providing for the above irrigation schedule, and also providing 10 second feet for the Hillside lands during the irrigating season and 90 second feet for power operations during the rest of the year, a surplus in excess of 178,000 acre feet would have been accumulated.

On the basis of total storage of 41,000 acre feet, or 19,400 acre feet in excess of present storage, provision would have been made for all of the above requirements, with a wastage in excess of 178,000 acre feet.

On the basis of total storage of 35,400 acre feet, or 13,800 acre feet in excess of present storage, provision would have been made for irrigation requirements, other than on Hillside land, and for 90 second feet for power operations during the rest of the year. Owing to corrections of defendants' acreage, which, as elsewhere noted, an examination of the evidence has shown to be proper, the total storage for such provision would be somewhat less.

It, therefore, must be concluded that, upon the principle of intensive development on streams devoted to power and irrigation uses, which was advocated by Mr. Means, the installations of the power companies on Bishop Creek may properly be indicted as utterly inadequte, wasteful and inefficient in themselves, and, at the same time, extremely detrimental to the irrigation interests below.

XI.

Ways That Are Dark and Tricks That Are Vain.

The conduct of the power interests in the early days of their operations on Bishop Creek was delightful. So gentle, considerate, and deferential it was toward the people from whom they wanted and needed help and favor. But those interests were outside then, and they wanted to get in.

The agreement between the power company and the association, made in 1906 [Tr. p. 17], which was supposed to initiate the company's policy to impound only the "surplus and waste waters" of Bishop Creek for power generation, and, at the same time, give the irrigators a better supply for their crops, will not soon be forgotten by the water users on that creek. Neither will they soon forget the conference with Mr. Chappelle, of the power companies, in 1908, when he said, "I want you gentlemen to feel that we are here and still with you in anything you can sustain in the building up of water for the benefit of the association." Surely, they will always remember his words on that

occasion when, after consigning the Hillside Ranch, as a trouble-maker, to perdition, he said: "I want you to feel we are trying to work out a proposition. You command our legal department and engineering department and can in time command the treasury of this company to a certain extent, which we think is sufficient to secure your confidence."

And then, in 1913, the attorney of the companies wrote a letter which will long linger in the memories of residents on Bishop Creek, for it was in that conciliatory message that reference was made to the "surplus and waste waters" agreement of 1906 and assurance was given that the writer's clients intended, "not only to respect the rights of these water users, but to assist and co-operate with them in every reasonable way," etc.

This amiable demeanor of the interests continued until 1919, and then suddenly there was a marked change of attitude. The companies ceased to be gentle and considerate. They ceased to respect superior rights in the waters of Bishop Creek and turned savagely on the community which had encouraged and helped them. They felt that by quiet waiting they had gained a position from which they could safely attack those who had befriended them, and, accordingly, they cut down the water supply when most needed by the farmers and thus provoked them to action in defense of their rights and property. And this suit resulted. At the hearing, the proceedings, controlled by the arbitrator, were all in the best possible

feeling, but the opening brief of the companies pours upon the heads of the irrigators a veritable deluge of criticism and abuse. Here is a partial collation of the terms employed by counsel for plaintiffs in what they call a brief:

	Pages of Plffs.' Op. Brief.
Robbing and ruining	43
Grossest neglect and wastefulness	44
Impaled on their own petard	45
Tangled web of irrigation affairs	45
Office of zanjero is a farce	49
Absolutely innocent of any embarrassment	50
Consumption is frightful	53
Put his foot in a trap	58
Frontier ideas are one with buffalo and the Indian	61
Practice painless agriculture	64
Stupid, nonsentical, arbitrary and tyrannical mismanagement	67
Silent hands that guide its destiny	70
Vexatious, unreasonable, overbearing and dictatorial	71
Expose their flank to a raking fire	76
Unreasonable and nonsensical and their foolish whims should not be catered to.	77
Waste, extravagance and maladministration	78
Rare prophets who have honor in their own country	105
Claim everything in sight	105
Impaled on one or the other horn of a dilemma	122
And so on, *ad nauseam*	75

The wolf is now in, and his sheep's clothing is discarded.

The Bishop Creek farmers went in force to the Hillside reservoir on June 11, 1919. They went not to destroy the companies' property, but to save their own. They went not to get the companies' water, but to get their own. They met their friend and neighbor, Rhudy, there. They did not wish violence and they asked him to release from the reservoir the water they needed. He, being a small man, and knowing that they meant business, undertook to tell them when they got the quantity they specified, 2500 inches. True it was, he was their friend and neighbor, but, at the same time, he was the employee of the companies, and they trusted him at their risk. He testified as a witness for his employers and then, as a bit of treachery to his friends and neighbors, he tried to make it appear that, while they demanded and thought they were getting 2500 inches of water, as a matter of fact, he fooled them and only turned out 790 inches. [Tr. p. 176.] His employers, as doubtless he said to himself, might rest assured that he could be depended on to turn a trick in an emergency. He, of course, as was his duty, reported the incident to his employers, and, being an engineer, he naturally specified the quantity of water which, at the demand of the farmers, had been released from the reservoir. What was his report on that point? The record is silent, excepting what is alleged by the companies themselves in their

verified pleadings. They say in paragraph VI of the original complaint, which was filed June 11, 1919, "the defendants have ever since the said 11th day of June, 1919, continued to release and cause to escape a large quantity, to-wit, a constant flow of approximately 50 second feet of water." In paragraph VI of their amended complaint, which was filed August 2, 1919, they allege that the farmers "released and caused to escape from the said reservoir a great quantity of water, to-wit, a constant flow of approximately 50 second feet of the waters then and there stored and contained therein."

The companies did not get their information from the farmers. Whose foot is in the trap, now?

Before closing, we tender to the arbitrator and counsel for plaintiffs our sincere apologies for the great length of this brief, although, on account of the mass of testimony, the great number and magnitude of interests represented by us, and the extreme importance of the case to our clients, it has seemed to us impossible to compress our argument within narrower limits.

In conclusion, we contend:

1. That the defendants' rights by appropriation in the waters of Bishop Creek are prior in time and right to any rights of the plaintiffs, within the limits of discharges, in acre feet, for the use of defendants during the irrigating season, as follows:

April 1-15, 1590; April 16-30, 2490; May 1-15, 3180; May 16-31, 3808; June, 7740; July, 8021; Au-

gust, 8021; September 1-15, 2760; September 16-30, 2142.

2. That the riparian rights of defendants remain unimpaired by the use of the waters of the creek by plaintiffs other than the surplus and waste waters thereof after fulfilling requirements under the schedule above stated.

3. That defendants are entitled to injunctive relief against the acts of plaintiffs in causing fluctuations of stream flow in Bishop Creek.

We, therefore, ask for judgment for defendants in accordance with the above, and for such additional relief as to the arbitrator may seem just and equitable.

Respectfully submitted,

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Attorneys for Defendants.

APPENDIX "A."

EXPLANATION OF COLUMNS BELOW.

Column 1. Names of defendants.

Column 2. Pages of transcript where testimony may be found.

Column 3. Total acreage included in cross-bill.

Column 4. Lands either not irrigated from Bishop Creek or irrigated from that creek and not owned by defendants, or owned by defendants and irrigated from that creek under right derived from the Hillside Water Company.

Column 5. Lands of defendants which have never been irrigated.

Column 6. Acreage of defendants owning Bishop Creek Canal stock and excluded on basis of one acre per share.

Column 7. Net acreage entitled to irrigation from Bishop Creek.

Column 8. Acreage of stipulated priorities.

1	2	3	4	5	6	7	8
John Barlow	1608	160				160	160
Algie Barlow, *et al.*,	1622	60				60	60
Joseph G. Bell	808	75				75	75
Bishop Driving Park Ass'n.	1102	20				20	
City of Bishop	2085	363	203			160	160
Elmer Bodle		20				20	
L. J. Bodle #1	1525	120	20		50	50	

1	2	3	4	5	6	7	8
L. J. Bodle #2	1525	10				10	
Samuel Bohn	1083	40				40	40
A. E. Burkhardt	1994	15				15	15
Katie J. Boyd	1231	83				83	83
Rachel D. Brierly	2020	120	60			60	
John F. Brockman	1098	3.5				3.5	3.5
Nettie P. Bulpitt	850	16				16	16
W. H. Byrne	2016	7				7	7
Felix Cardinel	903	160		3		157	157
Fred Callsen	1201	5				5	
M. E. Carpenter	1359	2.5				2.5	
J. A. Cashbaugh #1	1798	87.4		4		83.4	
J. A. Cashbaugh #2		25	25				
J. A., W. A. Cashbaugh and Cashbaugh Estate	1918	400	80	44	70	206	
Lucas Cesprini	1372	7.5				7.5	7.5
Geo. A. Clarke	564	43				43	43
Mary A. Clarke	564	133				133	133
Dora C. Coats	676	22.9				22.9	22.9
Frank Clarke	1336	10				10	
W. A. Compton	1762	120		7	57	56	
Robt. O. Cox	870	140				140	140

1	2	3	4	5	6	7	8
W. H. B. Crow	1397	11				11	11
Anna M. Currie	1681	80		1	38	41	
Bertha L. Deans	1022	100		33		67	60
John A. Dehy	1962	400	85		117	198	
Katherine E. Dehy	1979	80	40			40	
Ben R. Davis	2010	41		2	20	19	
W. E. Detrick	1176	10				10	10
Chas. M. Dixon	1466	40	10			30	
Fred B. Dodge	1270	4				4	4
Chas. R. Dugan	733	140		4		136	136
O. W. Dunn	614	120		4		116	116
Claude R. Ford	1090	6.5				6.5	6.5
J. F. Frager	838	79				79	79
Geo. W. Garner	1843	132	82			50	
J. M. Garner	1480	132	14			118	
Bertha I. Garner (Est.)	1491	125			37.5	87.5	
Andy Gaugler	1516	3				3	3
H. M. Gibson	1632	40				40	40
W. E. Goodwin	1277	30	24			6	
Laurence Gillespie	1444	80				80	80
S. M. Gregory	1074	30				30	30
H. J. Halliday	1214	2				2	2

1	2	3	4	5	6	7	8
Wm. Harrah	1122	4.5				4.5	
Chas. Hartwig	1999	80			38	42	
J. G. Henderson	934	97.9				97.9	80
A. Henderson	1223	40				40	
L. B. Heise	1356	5				5	
Ethel R. Irwin	923	79				79	79
Ritta M. Johnson	487	40				40	40
Harvey R. Keaton	1088	20				20	20
Phillip P. Keough #3	1379	65				65	65
" (Butler) #2	1379	8				8	8
" (Taber) #1	1379	5				5	
J. C. Kewley	1311	5.5				5.5	
Thos. Key	916	1				1	1
A. E. Larson	1285	30				30	30
L. L. Leidy	1291	23				23	
Sophie S. Lillie	1325	20				20	20
Paul E. Lodge	1350	28				28	19
Mary E. B Leidy	2053	240	80			160	160
C. P. Mackey	918	20.8				20.8	20.8
C. W. Matlick	1206	20				20	20
S. E. Matlick	1111	20				20	20
Allen Matlick	715						

1	2	3	4	5	6	7	8
	2370	470	250			220	190
E. S. Matlick	976	10				10	10
Mason & Alcorn	1000	160				160	160
Lloyd Marquam	1654	80		3	39	38	
M. R. Mayhew	1706	100		1	25	74	
N. F. McAfee	765	14				14	14
L. McLaren	538	18				18	18
Wm. McLaren Est.	538	139				139	139
Carrie McNally	1215	1.3				1.3	1.3
J. A. McNally	1117	5				5	
Orson A. Moody	1792	80				80	80
E. J. Neikirk	1197	10				10	10
H. P. Nelligan	1250	6				6	6
Susan A. Newlan	1189	113				113	113
J. Neidel	1311	20				20	
A. W. Nobles	665	22.8				22.8	
H. A. Nobles	2070	.5				.5	
J. B. Newlan	2396	80	30		25	25	
C. L. Olds	1069	40				40	40
Leon Orcier	1217	101				101	101
Louis Pauly	1414	140	25			115	115
H. G. Plumley	1921	160	5	5		150	

1	2	3	4	5	6	7	8
E. W. Powers	2129	80		20		60	
H. Preston	1309	5				5	5
Geo. J. Read	1252	80				80	80
Yandell Rowan	1585	64				64	64
Wm. Rowan	498	255				255	160
Edw. Schober	1183	28				28	28
J. Schober	1362						
	1461	37				37	32
R. J. Schober	951	120	6			114	40
Louisa Schoch	1282	1.5				1.5	1.5
West Bishop School	1308	3				3	3
Mary A. Serventi	1412	6				6	6
Ed. Shaw	779	10.4				10.4	10.4
Jas. Shaw	1576	160				160	160
J. W. Sherwin	786	16.5				16.5	16.5
R. W. Scott	2083	160	160				
J. R. Shipley	897	58.5				58.5	58.5
Geo. R. Shuey	1887	130				130	
C. A. Skinner	1226	5				5	
A. O. Sonne	1343	6				6	
A. A. Shirley	453	130				130	130
Geo. Simeral	1274	11				11	11

1	2	3	4	5	6	7	8
Eugene E. Smith	1263	5	1.2			3.8	3.8
Horace M. Smith	686	80				80	80
Lloyd M. Smith	828	33.8				33.8	33.8
Albert Smith	1376	.5				.5	.5
Calla N. Smith	1332	20				20	20
I. E. Squires	750	27.7				27.7	27.7
Ellis E. Sterling	891	88.2				88.2	88.2
J. J. Sullivan	1903	100			25	75	
J. A. Summers	1243	12				12	12
Thos. Summers	1945						
	1853	280		27	126	127	
Lloyd Summers	1254	20				20	20
J. A. Swall	1429	80				80	80
J. R. Spiker	1562	80				80	
Wm. Symons	1934	160		5		155	155
Tabor & Allison	1958	12.5				12.5	
Mrs. E. A. Taylor	1365	5				5	5
Theresa R. C Teare	1728	147.5		9	68	70.5	
J. M. Thomas	2035	90	15			75	10
C. T. Thompson	855	26.5				26.5	26.5
Thos. Thomson, Sr.	580	162				162	162
Thos. Thomson, Jr.	754	38.5				38.5	38.5

1	2	3	4	5	6	7	8
W. J. Tinder	398	20				20	20
W. A. Trickey	1315	25				25	25
J. S. Turner	1722	118.5				118.5	118.5
G. W. Tweedy	1776	160			50	110	
N. M. Van Velsir	1054	200				200	200
L. C. Varney	647	135				135	135
W. Vaughn	1523	10				10	10
M. Q. & W. W. Watterson	2129	400		244		156	
A. L. Wells	692	60				60	60
W. H. Wells	606	56				56	56
E. P. White	1369	7				7	7
B. F. Williams	1299	5				5	5
Thos. Williams	984	220.8				220.8	
M. A. Yandell	2030	50	40			10	10
W. P. Yaney	635	66				66	
W. B. Young	1128	80				80	80
		11027	1255.2	416	785.5	8570.3	5575.9

APPENDIX "B."

HOLDINGS AND USE OF CANAL STOCK ON LANDS OF DEFENDANTS.

1. *Owens River Canal Stock.* The evidence showed that 10 acres of defendant C. M. Dixon, 24 acres of defendant W. E. Goodwin, 25 acres of defendant Louis Pauly, 6 acres of defendant R. J. Schober, and 15 acres of defendant J. M. Thomas, are irrigated from the Owens River Canal, while the rest of the holdings of these defendants have always been irrigated from Bishop Creek, excepting that defendant J. M. Thomas, in addition to the 15 acres has, during the past two years, on account of shortage of the creek supply, also irrigated 25 acres from the canal.

2. *Bishop Creek Canal et al. Stock.* The following study is made on the assumption that the stock, when used, was applied on the basis of one share to the acre, and that where the holder of stock had more shares than acres, he obtained one-half his supply from the canal and one-half from the creek, and where the holder had less shares than half his acreage, the deficiency of supply, after applying the stock, was all obtained from the creek. The results of such study are reflected in columns 6 and 7 of Appendix "A."

(1) L. J. Bodie; 120 acres, parcel #1 [Tr. p. 1528]:

Has 75 shares of Bishop Creek Canal stock. Testifies that he only claims 100 acres in this suit, and that

he uses 25 shares of his 75 shares of stock on the 20 acres for which he makes no claim for Bishop Creek water. [Tr. p. 1536.] We have, therefore, placed 50 acres under Bishop Creek.

(2) J. A. Cashbaugh; parcel #1, 87.4 acres [Tr. p. 1814], and parcel #2, 25 acres [Tr. p. 1912]:

On parcel #1, no canal stock is used. He irrigates solely with Bishop Creek water.

On parcel #2, he claims no Bishop Creek water, but irrigates with 24 shares of canal stock.

(3) J. A. and W. A. Cashbaugh and Cashbaugh Estate; 400 acres [Tr. p. 1918]:

Testified by J. A. and W. A. Cashbaugh that 644 acres are owned in this "bunch," 400 acres in the suit and 244 acres not included in the suit. Of the 400 acres in the suit, there are 80 acres for which no right in Bishop Creek is claimed and 44 acres which have never been irrigated, leaving an irrigated area of 276 acres, in this suit, for which Bishop Creek right is claimed. Of the 244 acres outside the suit, 124 acres are irrigated from the canal.

The Cashbaughs have 194 shares of Bishop Creek Canal stock, which they use on the 400 acres of irrigated land, being 276 acres in the suit and 124 outside. Since their only source of supply for the 124 acres outside this suit is Bishop Creek Canal, we have assigned 124 shares of this stock to the 124 acres and the remaining 70 to the 276 acres, leaving a balance of 206 acres irrigated from Bishop Creek.

(4) W. A. Compton; 120 acres [Tr. p. 1762]:

Has 7 acres of land never irrigated, leaving 113 acres irrigated from Bishop Creek and Bishop Creek Canal. Has 125 shares of canal stock. The inception of his right is in Bishop Creek [see Kinsley testimony, Tr. p. 2243] in 1887, and Bishop Creek water has been used since. We have assigned an equal acreage to both Bishop Creek and Bishop Creek Canal.

(5) Anna M. Currie; 80 acres [Tr. p. 1681]:

Has 1 acre never irrigated, leaving 79 acres irrigated. Has 38 shares of Bishop Creek Canal stock, leaving 41 acres irrigated from Bishop Creek.

(6) John A. Dehy; 400 acres [Tr. p. 1962]:

Has 400 acres; 60 acres under Farmers' Ditch, 15 acres cut off by Owens River, and 10 acres under the Rawson Canal, leaving 315 acres irrigated. He has 117 shares of Bishop Creek Canal stock, leaving 198 acres irrigated from Bishop Creek.

(7) Katherine Dehy; 60 acres [Tr. p. 1979]:

Has 40 acres under Farmers' Ditch and 40 acres irrigated with Bishop Creek water. No part of the former 40 acres has ever been irrigated from Bishop Creek, but 5 acres, never irrigated, does lie within the 40 acres under the Farmers' Ditch.

Note: Plaintiffs' Opening Brief (p. 96) erroneously assesses said 5 acres against the 40 acres served from Bishop Creek.

(8) Ben R. Davis; 41 acres [Tr. p. 2010]:

Has 2 acres land never irrigated, leaving 39 acres irrigated. Has 50 shares of stock. Inception of right

in Bishop Creek [Kinsley testimony, Tr. p. 2246] and same acreage irrigated now as then. We have assigned 50% of this acreage to Bishop Creek.

(9) J. M. Garner; 132 acres [Tr. p. 1480]:

Testifies that he uses Bishop Creek Canal stock on only 14 acres and irrigates the balance of 118 acres from Bishop Creek.

(10) G. W. Garner; 132 acres [Tr. p. 1843]:

Testifies he uses Bishop Creek Canal stock on 82 acres and Bishop Creek water on 50 acres.

(11) Bertha I. Garner; 125 acres [Tr. p. 1491]:

All formerly irrigated from Bishop Creek since prior to 1887. [Testimony of Yandell, Tr. p. 2363, and Clarke, Tr. p. 2418]. Land in two parcels, parcel 1 of 80 acres and parcel 2 of 45 acres. Has 37½ shares of Bishop Creek Canal stock. Uses Bishop sewage water, under contract with town of Bishop, on a portion of parcel 2, the remainder thereof being irrigated from Bishop Creek and Bishop Creek Canal. No water from the septic tank ever used on parcel 1 of 80 acres. The water from Bishop sewer system comes from Bishop Creek. The use of such sewage water makes a situation different from other cases studied, and would seem to call for a somewhat different rule. We have deducted 37.5 acres for the canal stock, leaving 87.5 acres under Bishop Creek.

(12) Chas. Hartwig; 80 acres [Tr. p. 1999]:

Has 38 shares of Bishop Creek Canal stock. Has used Bishop Creek water since prior to 1887 [Testi-

mony of Kinsley, Tr. p. 2248, and Clarke, Tr. p. 2422], and is still using it. We have assigned 42 acres to Bishop Creek.

(13) Mary E. B. Leidy; 240 acres [Tr. p. 2053]:

Has 240 acres. Claims Bishop Creek water for only 160 acres and states that only Bishop Creek water has been used on this 160 acres. Plaintiffs conceded priority on this 160, but, in their brief (p. 96) arbitrarily apply 58 shares of Bishop Creek Canal stock to this land. Mrs. Leidy has 138 shares of such stock which she testified she only used on the remaining, or easterly, 80 acres.

(14) Lloyd Marquam; 80 acres [Tr. p. 1654]:

Has 3 acres of land never irrigated and 75 shares of Bishop Creek Canal stock. Has been using Bishop Creek water since 1887 [Testimony of Kinsley, Tr. p. 2250, and Bodle, Tr. p. 2290]. 50% of this acreage, or 38 acres, is placed under Bishop Creek.

(15) M. R. Mayhew; 100 acres [Tr. p. 1706]:

Has only 1 acre of land never irrigated, and 25 shares of Bishop Creek Canal stock. Has been using Bishop Creek water ever since 1887, and prior [Testimony of Kinsley, Tr. p. 2248]. He, therefore ,has 74 acres irrigated from Bishop Creek. Notwithstanding the fact that this defendant has only 1 acre of dry land, plaintiffs in their brief assess 75 acres of dry land against him.

(16) J. B. Newlan; 80 acres [Tr. p. 2396]:

Claims a right in Bishop Creek, through China Slough, for 50 acres. He has 25 shares of Bishop Creek Canal stock which he also uses on the 50 acres, leaving 25 acres irrigated from Bishop Creek. A. A. Bowman [Tr. p. 2491] testified that this area is irrigated now substantially as in 1887, and prior thereto.

(17) H. G. Plumley; 160 acres [Tr. p. 1921]:

Has 160 acres in this suit, of which 5 acres were sold and 5 acres never irrigated, leaving 150 acres irrigated. Has a right, rarely used, in the Bishop Creek Canal from August 15 to May 1, of each year. He depends on Bishop Creek for his supply. No allowance is made for his stock, and plaintiffs, in their brief (p. 96) concur.

(18) George R. Shuey; 130 acres [Tr. p. 1887]:

Has a grant of 100 inches in Rawson Ditch, which was built subsequent to the initiation of right therefor from Bishop Creek. [Kinsley estimony, Tr. p. 2252.] The Rawson Ditch, in crossing the south fork of Bishop Creek, built a levee and created what is known as "Buckley Pond." Mr. Shuey is a riparian owner on the south branch of Bishop Creek and receives his supply from Bishop Creek. [Tr. p. 1896.] We have assigned his total acreage to Bishop Creek.

(19) J. J. Sullivan; 100 acres [Tr. p. 1903]:

Has 25 shares of Bishop Creek Canal stock, leaving 75 acres irrigated from Bishop Creek through China Slough and Kinsley Ditch.

(20) Thos. Summers; 280 acres [Tr. pp. 1853 and 1945]:

Has 27 acres of land never irrigated, leaving 253 acres irrigated. Has 200 shares of Bishop Creek Canal stock. His inception of rights in Bishop Creek are established by Kinsley [Tr. pp. 2248 and 2249], and he and his predecessors have used Bishop Creek water ever since. We have placed 50%, or 127 acres, under Bishop Creek.

(21) Wm. Symons; 160 acres [Tr. p. 1934]:

Has 5 acres never irrigated, leaving 155 acres irrigated. While he has 912 shares of Bishop Creek Canal stock, he has hundreds of acres of additional land, outside of the suit, to which he applies this stock. Testifies [Tr. p. 1941] that he uses Bishop Creek water only on the 155 acres. Because he holds Bishop Creek Canal stock, plaintiffs, in their brief (p. 95) have assessed all his land in this suit against that source, even while stipulating his priority.

(22) Theresa R. T. Teare; 147.5 acres [Tr. p. 1728]:

Has 9 acres not irrigated, leaving 138.5 acres irrigated. Has 68 shares of Bishop Creek Canal stock, leaving 70.5 acres under Bishop Creek. Kinsley establishes priority of right [Tr. p. 2230]:

(23) Geo. W. Tweedy; 160 acres [Tr. p. 1776]:

Has 50 shares of Bishop Creek Canal stock, leaving 110 acres irrigated from Bishop Creek. Kinsley [Tr. p. 2253] establishes priority. He has owned this stock for two years only

(24) Thos. Williams; 220.8 acres [Tr. p. 984]:

Has 51 and a fraction shares of Bishop Creek Canal stock. Parcel 1 of said lands, containing 164.4 acres, is irrigated exclusively from Bishop Creek, and parcel 2, containing 56.4 acres, was, up to 1911, also irrigated exclusively from the creek. Since that time parcel 2, together with an adjacent 106 acres not in suit, has been irrigated partly from the creek and partly from the canal under the 51 shares of stock. It is fair to assume that at least the equivalent of 56.4 acres, thus having a mingled supply, is irrigated from Bishop Creek.

SUMMARY.

1. The total number of shares of Bishop Creek Canal stock actually applied to the lands in the cross-bill receiving a mingled supply from the creek and the canal, is 785.5.

2. The total acreage receiving a mingled supply from Bishop Creek and Bishop Creek Canal is 2,020 acres, including 1,237 acres irrigated since 1887 and prior, and 783 acres irrigated in 1887 and since. (See Columns 6 and 7, Appendix "A.")

APPENDIX "C."

PRIOR RIGHTS IN BISHOP CREEK NOT STIPULATED, BUT PROVEN.

Name.	Acres.	Transcript Pages.
L. J. Bodle, Parcel #2	10	1525-2321-2406-2416
M. E. Carpenter	2.5	1359-2321-2406-2416
Wm. Harrah	4.5	1122-2321-2406-2416
A. Henderson	40	1223-2321-2406-2416
L. B. Heise	5	1356-2321-2406-2416
P. P. Keough, Parcel # 1	5	1379-2321-2406-2416
J. C. Kewley	5.5	1311-2321-2406-2416
J. Neidel	20	1311-2321-2406-2416
J. Schober, Parcel #2	5	1362-2321-2406-2416
C. A. Skinner	5	1226-2321-2406-2416
Taber and Allison	12.5	1958-2321-2406-2416
W. P. Yaney	66	635-2321-2406-2416
J. A. McNally	5	1117-2321-2406-2416
Bishop Driving Park Ass'n.	20	1102-2321-2406-2416
Fred Callsen	5	1201-2321-2406-2416
L. L. Leidy	23	1291-2321-2406-2416
A. W. Nobles	22.8	665-2321-2406-2416
H. A. Nobles	.5	2070-2321-2406-2416
A. O. Sonne	6	1343-2321-2406-2416
Paul E. Lodge, Parcel #2	9	1350-2321-2406-2416
John G. Henderson, Parcel #2	17.9	934-2321-2406-2416
L. J. Bodle, Parcel #1	100	1525-2225-2253-2294
Rachel D. Brierly	60	2020-2431
J. A. Cashbaugh, Parcel #1	83.4	1798-2230

J.A. and W.A.Cashbaugh and Cashbaugh Estate	276	1918-2254-2297
Anna M. Currie	79	1681-2246-2294
Frank Clarke	10	1336-2350
W. A. Compton	113	1762-2243-2294
Bertha L. Deans	7	1022-2635-2676
John A. Dehy	315	1962-2330-2373
Katherine E. Dehy	40	1979-2330-2373
Ben R. Davis	39	2010-2246-2294
Chas. M. Dixon	30	1466-2354
G. W. Garner	50	1843-2358
J. M. Garner	118	1480-2358
Bertha I. Garner	125	2418-2244-2294-1492
W. E. Goodwin	6	1277-2346
Chas. Hartwig	80	1999-2422-2248-2294
Lloyd Marquam	77	1654-2250-2290-2294
Allen Matlick	30	715-2370
M. R. Mayhew	99	1706-2248-2294
J. B. Newlan	50	2396-2491
H. G. Plumley	150	1921-2410
E. W. Powers-Watterson Bros.	216	2129-2169
Wm. Rowan, Parcel #2	95	498-2338-2524-2634
R. J. Schober	74	951-2641
Geo. R. Shuey	130	1887-2252-2294
J. J. Sullivan	100	1903-2248-2294
Thos. Summers	253	1853-1945-2248-2294
J. R. Spiker	80	1562-2376
Theresa R. C. Teare	138-5	1728-2230-2294
J. M. Thomas	65	2035-2668
Geo. W. Tweedy	160	1776-2253-2294
Thos. Williams	220.8	984-2344
Total	3759.9	

Service of the within, and receipt of a copy thereof, is hereby admitted this.....day of April, A. D. 1921.

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Attorneys for Plaintiffs.